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COMMUNITY FACILITIES PLAN

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CLAYTON, NORTH CAROLINA

COMMUNITY FACILITIES PLAN

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ABSTRACT:

This study analyzes and evaluates local government public services in the Town of Clayton, comparing their facilities, operations, and policies with recognized standards of performance for similarly populated areas as established by appropriate regulatory and advisory agencies and associations. Deficiencies in facilities, operations and policies are determined and recommendations are forwarded for facility development, policy modification, and operations alteration based upon findings of the evaluation.

TABLE OF CONTENTS

	<u>PAGE</u>	<u>MAPS</u>	<u>FOLLOWING</u> <u>PAGE</u>
AN INTRODUCTION TO COMMUNITY FACILITIES			
PLANNING.....	1	1	Municipal Water System..... 20
TOWN HALL.....	4	2	Sanitary Sewer System..... 25
POLICE PROTECTION.....	7	3	Storm Drainage System..... 29
FIRE PROTECTION.....	12	4	Street Conditions..... 33
RESCUE SQUAD.....	18	5	Traffic Volume..... 33
WATER SYSTEM.....	20	6	Sidewalks and Curbing and Gutter..... 39
SANITARY SEWERAGE SYSTEM.....	25	7	Schools and Playgrounds..... 41
STORM DRAINAGE SYSTEM.....	29		
REFUSE COLLECTION AND DISPOSAL.....	31		
STREETS.....	33		
STREET LIGHTING.....	37		
SIDEWALKS, CURB AND GUTTER.....	39		
SCHOOLS.....	41		
PUBLIC LIBRARY.....	45		
MEDICAL CARE FACILITIES AND SERVICES.....	49		
PARKS AND RECREATION FACILITIES.....	51		

AN INTRODUCTION TO COMMUNITY FACILITIES PLANNING

PUBLIC SERVICES IN THE URBAN ENVIRONMENT

Throughout the United States municipalities are being subjected to the pressures of urbanization; approximately 73% of our population is now urban.* The rural-urban migration requires the resolution of many new problems by local governments. People must be housed, their children must be educated, and adequate transportation facilities must take them to and from their jobs. Central to this conglomeration of demands upon the municipality is the necessity for adequate public services. Today's urban citizen has become a challenge to wise public officials: he is more sophisticated, better educated, and more oriented toward progressive change than his predecessors. Consequently, he expects more and better public services appropriate to his higher standard of living.

COMMUNITY FACILITIES PLANNING

Community facilities provision encompasses a wide scope of services including utilities, recreation, entertainment, education, water and sewer systems, and library facilities. Although recognizing the importance of the private business sector in facility provisions (newspapers, radio and television, commercial recreation), emphasis will be placed on services operated by the local government. Community facilities are admittedly provided by various institutions. The text illustrates the overlapping sectors generally responsible for their provision in urban areas. Local government is, however, the sole force responsible for the ultimate welfare of all the town's citizenry, and is legally empowered to provide services to the community. Because local government budgets are limited, particularly in

*Source: Final Population Count, United States, 1970 Census of Population

towns with small tax bases and limited powers of debt financing, it has become essential for local government to plan its expenditures wisely after fixing its goals and their priorities. For this reason, two types of analysis have become popular as techniques of community service evaluation and planning: 1) the community facilities plan, and 2) the capital improvements budget (a detailed five to six year financial program incorporated annually as a part of the municipal operating budget).

THE COMMUNITY FACILITIES PLAN

The community facilities plan is essentially a six-phase technique consisting of:

- 1) A comprehensive inventory of existing public services and their facilities.
- 2) The collection of detailed information relevant to the operation of all public facilities, including policies and plans, both existing and proposed.
- 3) The application of appropriate standards to analyze the facilities and services.
- 4) The establishment of realistic goals for levels of community service for the unique needs of the town.
- 5) The development of policies and plans for the improvement of facilities and programs to provide for the goals established, as well as interim recommendations to bring current facilities up to desirable standards.
- 6) The determination of a community facilities plan for the community, consisting of the most appropriate of the proposed alternative solutions to community service needs.

The logical basis for this rational approach to community services, and the preparation of such a report as this is relatively apparent: the more we know of the nature, extent, and future plans of public facilities, and the more we know of the population's needs and suitable standards of operation, the more easily and soundly we can formulate meaningful goals and effective programs to achieve these goals, at a minimum of cost. Advance determination of public objectives insures that "lead time" for

the pursuit of grants-in-aid will be available and provides information required to stabilize local public finances by establishing reserves for anticipated projects and making wise use of limited municipal credit.

Since this study is concerned with all the component services and facilities of the town and represents the initial survey and analysis phase of the community facilities program, the scope of this report is general in nature, and some of the specific recommendations for policies and plans must be considered in the light of future developments and the more detailed studies this report should stimulate.

TOWN HALL

Clayton's Town Hall, located on the west corner of the intersection of Second and Barbour Streets, was constructed in 1927. The building was designed with solid brick walls and steel roof trusses and floor joists. Therefore, even though it is over 40 years old, the structure is still sound. There have been some alterations to the building, but no additions.

EXISTING FACILITIES

The town hall has three levels. The ground floor houses the police department, the fire department, a magistrates office and two restrooms. The town office, the library, the courtroom and a ladies restroom occupy the first floor. In addition to the upper space of the courtroom, the second floor contains the 4 - cell jail, a general purpose office with two adjoining rooms used as waiting rooms, and a men's restroom.

A two-acre unpaved municipal parking lot is located across Barbour Street from the town hall.

The town office occupies an area 15' x 30' in size. A service counter divides the work area from the public entrance. The small work space is used by the town clerk and her assistant, and provides meeting space for the Town Board of Commissioners. It contains an addressograph machine, bookkeeping machine, calculator, copy machine, typewriter, cash register, check protector, safe, and a two-way radio for communication with police department and rescue center. A table with 8 chairs doubles as a work table and as meeting place for the Town Board.

The police department, the fire department and the library are discussed in other sections of this report.

STANDARDS:

1. The town hall, since it is the focal point of local government activity, should be located so as to be easily accessible to the public by both pedestrian and automotive traffic.
Since the central commercial area is the general center of activity and is thus frequently visited by most residents of the town, the town hall should be located in or adjacent to this area.
2. There should be ample off-street parking for both employees and the public adjacent to the town hall.
3. The site of the town hall should provide sufficient space for future expansion of various facilities, including additional parking.
4. Ingress and egress for fire vehicles should be at the rear or side of the town hall, separated from pedestrian traffic (and visitor parking).
5. Separate access to the town hall should be provided for police use to separate the town's "customers," (paying water or electric bills, etc.) from arrestees.
6. Meeting rooms for governing boards should provide ample space for the public to attend.

RECOMMENDATIONS:

The town hall is conveniently located adjacent to the central commercial area and across from the post office. Adequate off-street parking space is available.

The town office space is quite crowded. As soon as the library can be moved to new quarters, its space should be converted to serve some of the crowded functions now located in the town office space. The library space could be remodeled to provide badly needed storage cabinets for town records and supplies. It could also provide a meeting room for the Town Board of Commissioners with adequate seating and table space. The rear portion of the existing town office space could be partitioned off

and the noisy bookkeeping machine, calculators and addressograph machine could be operated so as not to bother people transacting business in the front portion.

When the fire department finds it necessary to move to larger quarters, the space it occupies should be assigned to the police department and remodeled to meet its needs as recommended in the section on the police department.

The general purpose office and related waiting rooms now accommodates the following state and county services to the local public: Drivers License Examiner once a week, Employment Security Commission once a week, and County Health Department clinic every second and fourth Wednesday. The present space should be adequate for the next five or ten years.

The municipal parking lot should be paved and parking space, entrances and exits, marked.

When a new fire station is required, the site purchased should be large enough to accommodate a municipal building that could house all of the town functions now housed in the present structure, with the exception of the library, and should also accommodate ample off-street parking space.

POLICE DEPARTMENT

The Police Department of Clayton is staffed by five policemen, one of whom is Negro, and a chief, as well as three part time dispatchers. With a 1970 population of 3,103* this means that there is one policeman for every 517 people, a figure that is close to the accepted FBI standard of one policeman for every 500 citizens. (However, a recent study conducted in Minnesota recommended that the optimum size of a small police department is ten men. The feasibility of efficiently operating a force with less than that number was questioned.) There are two policemen on duty at all times; the chief is always on duty during the 7 a.m. - 4 p.m. shift. The remaining five policemen rotate between the 7 a.m. - 4 p.m. shift, the 3 a.m.-11 p.m. shift, and the 11 p.m. - 7 a.m. shift. Each policeman is on duty for eight days in this manner and then off for two days. In addition to this regularly scheduled duty, each policeman spends an average of 4 hours each week in court.

In order to become an officer, an applicant must be a high school graduate or equivalent, must have good character references, background, and be in good physical condition. Training of new recruits is mainly of the on-the-job variety, primarily because there are not enough policemen to permit the chief to release recruits for outside law enforcement training such as that offered by the Institute of Government at Chapel Hill. Correspondance courses are available to the officers as are courses offered at nearby technical schools. The police library, according to Chief Morgan is excellent and "one of the best in the area."

Salaries, though low, are on a par with those in nearby towns. In the 1969-1970 fiscal year, for instance, patrolmen made \$5,160. per year; in Cary during the same period, patrolmen started at \$4,707, while in Garner the figure was \$4,584. The chief in that period received \$6,964, compared with the \$6,841 salary of the Cary police chief and the \$6,708 salary of Garner's chief.**

* Final 1970 U. S. Census figures.

** Information gathered from the League of Municipalities.

Duties of the police department include regular patrolling within the incorporated city limits and part of the 1 mile jurisdiction outside the city limits on a regular basis. The remainder of the 1 mile jurisdiction is served only in case of emergency. Other activities include directing traffic at athletic events, escorting funeral processions, and patrolling teen dances. The police department is well coordinated with the rescue squad, the fire department, the county sheriff's department and the state highway patrol. They provide answering service for both the rescue squad and fire department, and work closely with the sheriff's department and highway patrol in emergency situations taking place outside the town limits. The lines of communication between these agencies work well and all parties are to be commended for their efforts.

The duties of the chief are numerous: he is in charge of administration, purchasing, and training, while at the same time working a regular day shift. As a member of the Community Improvement Council and other community groups he fosters good relations between the department and the town. Due to the small size of the force, the chief is being forced to handle too many responsibilities which do not pertain directly to law enforcement.

Most of the problems dealt with by the police are of a relatively minor nature: disorderly persons, assault cases, domestic quarrels, and capturing stray dogs. The system of records kept for these and all other offenses is extensive, consisting of an arrest report file on both adults and juveniles, criminal history, a fingerprint file, a complaint file, a criminal investigation file, a radio log, a file of active and inactive traffic accidents, and a map locating all accidents occurring within the city limits. Most of this work is done by the chief.

Any recommendation for an increase in the size of the force should therefore include one part or full-time administrative assistant to the chief to relieve him of certain office functions.

The patrol equipment consists of three vehicles, a 1966 Plymouth, a 1968 Ford and a 1970 Plymouth. Normally, the town operates two patrol vehicles, but it was decided that the 1966 vehicle not be retired when the 1970 Plymouth was purchased. Vehicles are replaced every two years. The present number of vehicles is more than adequate for a town of Clayton's size.

Radio equipment consists of a 40 watt base station and three 30 watt mobile units. There is also an obsolete walkie-talkie which is of limited value. Certain types of other police equipment are lacking. The department has only four sidearms, one of which is virtually useless. It has no riot control equipment (riot guns, gas masks), no modern program for improving equipment, and equipment is replaced only when desperately needed.

The police department is located in the basement of the town hall which, though old, is adequate for present needs. An additional room to be used for training purposes will be provided by altering a corridor next to the department. The four-cell jail is on the second floor of the town hall and is inadequate for present needs. It is too far removed from headquarters and is poorly arranged. Because it lacks a fire escape, the jail does not meet N. C. Department of Social Services standards, though that situation will be rectified in the near future. There are no separate facilities for females and juveniles. As a result of this, they must be taken to Smithfield to be jailed.

The six man police force is too small. Because two men must be on duty at all times, hours are long (48 hours work week plus 3-4 hours spent in court), and night shifts are too frequent. Budgetary restraints make such an increase in Clayton infeasible, at the present time, but the force should be increased to eight men immediately.

The problem of high turnover of police personnel faced by the town is directly related to the long hours, night shifts, and low pay. It is difficult to get highly qualified men, both black and white to apply for jobs. Many of those who are qualified and do join the force quit shortly afterwards due to

the bad duty hours and the extra hours necessitated by court appearances, as well as the low pay (\$430 per month as of 1969-1970).

Currently, the police force has an annual budget of \$50,000, or about 10 percent of the town's annual budget. In terms of proportions of the entire budget, this is a satisfactory amount; in terms of dollars, it is not. Substantial increases in the money allocated to the police department must be made if the department is to realize an increased level of efficiency.

RECOMMENDATIONS

The department should be increased immediately to eight patrolmen and one full or part time administrative assistant, and be further increased to ten partolmen and a full time administrative assistant within three years by adding one new position annually. An acceptable alternative to provide a full-time aide would be training in administrative duties for some patrolmen, who would share office work with the Chief as well as working a reduced patrol duty. A pay scale should be introduced providing increases commensurate with time on the force, training courses satisfactorily completed, and general competence on the job. The current 1 year probation period for new officers should be reduced to six months. Minimum standards for law enforcement training should be adopted to include courses taken at training centers such as the Institute of Government at Chapel Hill.

The amount of money allocated to police department functions needs to be increased.

Police department equipment should be increased by the following items:

- a. Three handguns
- b. two riot guns (optional)
- c. riot equipment (gas masks) (optional)
- d. modern speed checking equipment

- e. breathalyzer equipment
- f. one portable walkie-talkie
- g. rechargeable fire extinguishers for all cars

A new jail providing separate accommodations for females and juveniles is needed. This could possibly be built in the present firehouse if a new firehouse is built (or alternatively, an agreement with other towns in the county should be reached concerning the construction of one centrally located jail to serve all towns in the county.) Consideration should be given to remodeling the quarters now occupied by the fire department for use by the police department (after the recommended new fire station is constructed). A highly economical alternative would be an expanded version of the current temporary confinement arrangements where by all of Clayton's arrests would be handled by the county jail, thus relieving the on-duty police officer of maintenance and meal responsibility for a mere four cells.

Clayton should request that a resident sheriff's deputy be assigned specifically to the Clayton area.

Financial assistance for improving the quality of local law enforcement agencies has been provided by the Omnibus Crime and Safe Streets Act, administered by the Division of Law and Order of the N. C. Department of Local Affairs through regional boards. Clayton's police department should make its training and capital equipment needs known to the Triangle Region Criminal Justice Planning Commission with a view toward inclusion of these facilities and programs in the region's plan, thus enabling Clayton to receive grants-in-aid and reduce the local cost of higher quality law enforcement capability. The Omnibus Bill provides funds for replacement officers while employees of the force are away receiving training; this is only one example of the type of aid available under the program which Clayton could employ. Likewise the town's ordinances could be codified using this grant assistance.

FIRE PROTECTION

The Clayton Planning area is served by the twenty man Clayton Volunteer Fire Department which is one of nineteen members of the Johnston County Firemen's Association. As a member of this association it is responsible for answering all alarms in the Clayton planning area as well as those outside the planning area where its assistance is requested. By the same token, whenever additional assistance is needed in Clayton, other county fire departments will answer the call. In this manner, most of the county receives fire protection. For rendering such service, the county pays the Clayton Fire Department as well as the other departments \$100 per month to be used for the maintenance and upkeep of equipment.

The fire department was begun over 50 years ago. This firehouse presently being used is in the town hall building and contains four bays on the ground floor. Parking facilities are adequate, consisting of the two acre town parking lot directly opposite the firehouse.

The major fire-fighting equipment is as follows:

- 1946 Ford pumper, 350 gallon tank capacity with a 500 GPM pump; 1,500 ft. of 2 $\frac{1}{2}$ " hose and one 3/4" booster hose.
- 1956 Ford pumper, 500 gallon tank capacity with a 500 GPM pump; 1,000 ft. of 2 $\frac{1}{2}$ " hose, 600 feet of 1 $\frac{1}{2}$ " hose and two 3/4" booster reels.
- 1969 Ford pumper, 500 gallon tank capacity with a 750 GPM pump; 1,000 ft. of 2 $\frac{1}{2}$ " hose; 800 feet of 1 $\frac{1}{2}$ " hose; and two 1" booster reels.
- 1960 Chevrolet tanker with a 1,200 gallon tank capacity.

All major equipment is in excellent condition, though according to the National Bureau of Fire Underwriters, the 1946 truck is superannuated (it is over the maximum 20 year equipment age limit), but is only retained as a standby unit.

Other equipment consists of:

-1962 Ford pick-up truck carrying 2 portable gas generators and other standard fire fighting equipment.

-One trailer mounted with foam generator.

-Three Scott airpacks; one "short snorter" airpack.

The North Carolina Fire Insurance Rating Bureau in a 1966 report gave Clayton an NB-8 rating. This rating was based on the population, fire defense and physical condition of the buildings in Clayton in 1966 and is used to determine fire insurance premiums. To illustrate the role ratings play in the cost of fire insurance, the following table represents the annual premiums on a dwelling valued at \$12,000 (brick veneer with an approved roof type).

Fire Insurance Premiums for Different Ratings

<u>Rating</u>	<u>Annual Premium</u>
NB-3	\$ 18.00
NB-4	18.00
NB-5	22.20
NB-6	22.20
NB-7	22.40
NB-8	25.80
NB-9A*	31.60 - 48.40
NB-9AA**	42.20 - 78.20
NB-10	42.20 - 78.20

* Within 500 ft of a fire hydrant

** Beyond 500 ft of a fire hydrant

The NB-8 rating is the highest obtainable with an all volunteer fire department. In order to reach a higher classification, and thus realize lower fire insurance premiums, Clayton would have to have full time firemen on duty in the firehouse 24 hours a day.

This would necessitate the hiring of from three to four qualified men. At the present time such action is not necessary.

Other key factors besides personnel and vehicles in fire defense are locations of fire hydrants and water pressure. With few exceptions, both the incorporated areas and the areas which may be annexed in the future have adequate fire hydrant coverage and water pressure¹ (Minimum of 70 pounds to maximum of 120 pounds). The rural areas outside the town planning area have no hydrants. Consequently, when the Clayton Fire Department responds to calls in rural areas, the tanker must be deployed. Generally, the policy for answering calls outside the planning area is that half the men and a pumper, an equipment truck, and (in rural areas) a tanker are sent. When Clayton requests assistance from other county departments it generally asks those nearest Clayton (all departments have equipment with standard hydrant fittings).

There are only infrequent inspections of buildings in town partly because the fire department is entirely voluntary, however, more concentrated attention is given to schools, especially the older plants with two or three stories.

The procedure for selecting volunteer firemen can be described as informal at best. When an opening in the department occurs, the men get together and prepare a list of people who in the past have rendered assistance when there has been a fire in town; they then review the list and select men to be approached

¹ Meets standard of N. C. Fire Insurance Rating Bureau as of November 10, 1970.

by the department and encouraged to submit an application for the vacant position(s). Though the department sponsors many social fund raising events, the main concern in selecting new men is to get "working firemen" and not "social firemen". There are no blacks on the department, supposedly because they have shown little inclination to become involved. In the past year the department has been increased from sixteen to twenty men. If annexation takes place, there should be a corresponding further increase in the number of personnel in the department.

Previous training in fire fighting is not a prerequisite for volunteer firemen in Clayton and there is no formal training program; training is primarily of the "on-the-job" variety, though there is a county firemen's school in Smithfield which some men attend for three to seven day period each year. Six times each year there is a meeting of all members of the Johnston County Firemen's Association. The Clayton department itself meets regularly twice each month at which time fire drills are conducted.

Until recently, the burden of providing most of the fire fighting equipment has fallen on the fire department. Necessary funds were obtained from the county (\$100 per month) and from fund raising events such as rodeos, barbecues, fairs, etc. held by the department. Money raised in this manner was used to purchase all the major vehicular equipment except the latest pumper and will in the future be used to purchase a replacement chassis for the tanker.

Major equipment is becoming increasingly expensive and it is difficult for the department to raise the necessary funds for its purchase. Thus when a new pumper was needed in 1969, the town bore the entire cost (\$22,000). This trend will have to continue and the town should make plans now to purchase another new pumper in 1976 when the 1956 pumper will reach its mandatory retirement age (for insurance purposes).

The communications system consists of three fire alarms located at strategic points and two way radios mounted in each fire truck which are connected with the town clerks office, the police department, and a central fire reporting center located in Smithfield. When a local fire is reported, either

to the town clerk or the police department, the police sound the three fire alarms which alert the volunteers to man their apparatus. If outside help is necessary as would be the case with a major fire, the central reporting station in Smithfield is notified of equipment needed. This central station in turn notifies one or more of the other departments in the county to answer the alarm in Clayton. If Clayton's assistance is required to fight a fire in another part of the county, it is this central system which puts out the call to the Clayton Fire Department by sounding the alarms in Clayton.

RECOMMENDATIONS

Funds should be provided by the town to replace the 1956 pumper by 1976. A capital reserve fund should be established to reduce the impact of this expensive piece of equipment, beginning in the 1971-1972 fiscal year budget, accumulating \$4,000 per annum. (Procedures for establishing capital reserve funds are spelled out in the Municipal Finance Act). All hydrants and gate valves require inspection at least once a year and records should be kept of these inspections. Building, housing and electrical codes now in effect should be strictly enforced under a program of regular inspection. A mandatory training program in fire fighting should be instituted. This program could be administered by either the Johnston County Firemen's Association or the North Carolina State Firemen's Association. A fire prevention program should be initiated with all schools being inspected monthly and all businesses quarterly. When expansion in the size of the department becomes necessary or when vacancies occur, the department should actively recruit blacks as well as whites. As Clayton grows in population the town should study the feasibility of hiring the number of full time firemen necessary to have one man on duty in the firehouse at all times, and thus qualify for a higher rating by the N. C. Fire Insurance Rating Bureau. When population growth requires an increase in the number of vehicles the town will require a new firehouse. The station should be located on a thoroughfare near the high-value central

business area. The planning board should work closely with the fire department, town board and the N. C. Fire Insurance Rating Bureau in selecting potential sites for acquisition in advance of their need.

Clayton's current size warrants the employment of a full-time fire chief responsible for conducting fire inspections required by law, training and recruiting new personnel, and maintenance of fire equipment and records. While this change would not alter fire insurance ratings (unless three men working eight-hour shifts were used), it would result in a more efficient fire protection service and serve to reduce the impact of later problems entailed in the transition from a volunteer department to a professional fire-fighting staff with a volunteer auxilliary.

The current policy which prohibits simultaneous membership in both the fire department and rescue squad should be enforced stringently.

RESCUE SQUAD

The Clayton Rescue and Civil Defense Squad was organized in January, 1964. As a result of internal problems it was finally disbanded in 1966. It was reorganized in May, 1967. The name was changed to Clayton Rescue Squad.

EXISTING FACILITIES AND SERVICES:

The Clayton Rescue Squad is housed in a concrete block building across Barbour Street from the Fire Department portion of the Town Hall. The building was constructed in May, 1968 and contains two vehicle bays and a training room. There is ample parking space in the municipal parking lot adjacent to the building.

The squad now has 19 members; there are two applicants on the waiting list. Equipment consists of a 1965 Dodge Ambulance, a 1965 International Equipment Truck, a 16 foot aluminum boat with 7.5 horsepower motor and trailer and one 5 K.W. generator on a trailer.

The service radius of the Clayton Rescue Squad is 14 miles. They will respond to any emergency call, rendering service in first aid, search and rescue, traffic control, civil defense activities, and ambulance service. The Clayton squad is a member of the North Carolina Associates of Rescue Squads and has a mutual aid agreement with other members, rendering any type of assistance needed when called upon by neighboring squads.

Each member is trained in standard and advanced first aid and must receive refresher training in first aid every six months. Two members of the squad are certified instructors in first aid and are available upon request to teach classes in first aid.

Donations from local citizens and organizations and money raised through special events and pro-

jects sponsored by the squad have provided the chief support of the squad's activities. The Town of Clayton has always responded to requests by the squad for assistance in purchasing equipment. Recently the county began supporting the squad and has committed itself to providing \$100. per month over the next three years.

Plans are underway to enroll members in the N. C. Department of Insurance Rescue College. The squad is also preparing educational programs for presentation to schools, civic clubs and church groups.

RECOMMENDATIONS

There is a need for another completely equipped ambulance; efforts are already under way to raise money for this truck. Addition of this vehicle will require the construction of another bay on the building.

The two men now on the waiting list can fill any need for additional personnel in the near future. The squad should continue to have a reserve of well qualified men on their membership waiting list.

Close cooperation with the Johnston County Civil Defense Unit should be continued.

WATER SYSTEM

EXISTING FACILITIES

The Town of Clayton's water system supplies water to all developed areas within the corporate limits, and outside the corporate limits to five industries, several developing subdivisions, and a school.¹

The water supply is derived entirely from 14 deep wells, 8 of which are within the corporate limits. The supply from these wells is of such a high quality that it requires no treatment, and is pumped directly into the storage and distribution systems. The total yield of the wells is approximately 1,000,000 gallons per day.

Storage facilities consist of a new 500,000 gallon elevated storage tank at the north edge of town, a 100,000 gallon elevated storage tank near the center of town, and 250,000 gallon and 100,000 gallon concrete ground storage tanks at the southeastern edge of town. Thus the total storage system can hold 950,000 gallons of water ready for use.

Average daily consumption by all users of city water is between 200,000 and 250,000 gallons. The maximum daily use is around 400,000 gallons. Clayton's water system has, therefore, better than a 100% reserve capacity.

Adequate pressure and flow to meet the standards of the National Board of Fire Underwriters are maintained at all hydrants. Standing pressure at the higher elevations on the system is 70 pounds per square inch and 120 pounds at the lower elevation. Fire flow rates range from 1400 gallons per minute on the 6" lines up to 2000 gallons per minute on the 8" and 10" lines.

The town's water distribution system is above average. The minimum size main now being installed by the town is 6". The process of eliminating dead end lines has made considerable headway. Inadequate size lines are also being replaced. The majority of the mains in the system are now either 6", 8", or 10" in diameter.

¹Information on existing water facilities based upon analysis by J. E. Serrine, Engineers, and data provided by Clayton's Director of Public Works.

A new bypass system is now being installed at all of the wells. This type of system will allow personnel of Clayton's Public Works Department to test the wells themselves at any time without cutting off the well from the system. The Town can thus keep a close check on its source of water and insure that each pump is functioning properly and that each well is providing the proper flow. The wells are sealed in the rock shelf which they penetrate, to prevent contamination by surface water. If the seal of a well is ever broken, the well is abandoned; it is cheaper to drill a new well than to try to reseal one.

Local officials are concerned, however, about Clayton's ability to supply the high water demands of some industries. The town and the county have lost several prime industrial prospects because these industries were not willing to accept a source of water supply dependent on wells. Clayton, therefore needs access to large water mains tied to a dependable supply of surface water such as a large river or impounded reservoir. There are three alternatives for provision of such a source of water for Clayton:

1. Impound a reservoir and construct a treatment plant at the Neuse River, approximately 2 miles northeast of the present corporate limits, and tie it to the present system with a 16" main.
2. Install a 16" main from Clayton to the Smithfield water system, a distance of approximately 10 miles. A 16" main already extends approximately 2 miles out toward Clayton from the Smithfield treatment plant.
3. Install a 14" main from Clayton to the Raleigh area water system, a distance of approximately 9 miles. A 14" main already runs from the edge of Raleigh to Garner.

Alternative No. 1 would be a very expensive undertaking. Cost of the treatment plant alone would be around \$300,000. The expense of impounding the reservoir and constructing the large supply main necessary to transport the treated water two miles to the Clayton water system would be quite high. Since Clayton can already easily handle its local demands and has ample capacity for residential and commercial expansion, this alternative would be extremely impractical as well as expensive just for the purpose of meeting the needs of industrial prospects.

The second alternative appears equally unreasonable at present. The Johnston County Board of Commissioners has appointed a committee to pursue the possibility of developing an areawide water system. After preliminary consultation with the engineering firms who prepared the comprehensive areawide water and sewer study for the county back in 1966, the opinion seems to favor a system that would tie the municipalities along the Interstate Highway 95 corridor together with large mains, using Smithfield's new water treatment plant as the source of water supply. The other two municipalities in the county, Clayton at the northwestern side and Princeton on the eastern side, would be left out. Perhaps at some later time these two municipalities would be tied into the system with a large main running along U.S. Highway 70. Since Clayton's altitude is approximately 250 feet above that of the water source at Smithfield, two pumping stations (at a cost of \$80,000 each) be required to lift the water to Clayton. The cost of the main and the required pumping stations would be at least \$500,000.

The third alternative may prove to be the most feasible and the least expensive of the possibilities. Clayton might be able to tie into the proposed Raleigh-Wake County Water System. A 14" main already extends to Garner. It is approximately nine miles from Garner to Clayton, and a drop in altitude of approximately 50 feet (which eliminates the need for installing and operating pumps).

Clayton is strategically located at the eastern edge of the great urbanizing-industrializing belt running from Georgia, up through South Carolina and into the heart of North Carolina, commonly referred to as the Piedmont Crescent. Prospects for industrial development along the U.S. Highway 70 corridor from the Raleigh area down through Clayton to Smithfield are very good, if an adequate water supply is made available along the route. It is reported that the Clayton area (and the county) recently lost a major industrial prospect involving several thousand jobs because assurance of a large, dependable water supply was not forthcoming.

The construction of a transmission main from Clayton to Garner would not be an inexpensive undertaking (roughly \$450,000) but possesses operational advantages over the other alternatives:

1. No operating costs for pumping equipment would be required because of Clayton's lower elevation.
2. When constructed Raleigh's impoundment of the Falls of the Neuse dam will provide an abundant supply for that city, which has already demonstrated willingness to accept small municipalities as customers (Cary, Apex, and Garner).
3. Because finished water could be delivered, no continuing operating costs for salaries, chemicals, power (or high initial costs for land and the plant itself) would be incurred.

Another favorable aspect of this alternative is the possibility of a cost sharing arrangement with Wake County, which could provide water from the line to customers along the route in that county.

Several engineering firms are now in the process of preparing a Comprehensive water and sewer study for the Raleigh-Wake County area. Preliminary contacts are being made to determine the feasibility of tying Clayton into this proposed water system.

RECOMMENDATIONS: (See Accompanying Map)

1. Continue investigation of possibilities of being adequately included in either the proposed Johnston County water system or the proposed Raleigh-Wake County System. Explore all avenues carefully and seek federal assistance for such a project.
2. Strengthen system of truck lines as follows:¹
 - a. Extend the 10" main along Fayetteville Street from its junction with 10" main along Main Street up to the new 500,000 gallon elevated storage tank off Fayetteville Street, between Kenal Street and Wilson Street;

¹Water line proposals were prepared with the assistance of Ragsdale Engineers of Smithfield, North Carolina

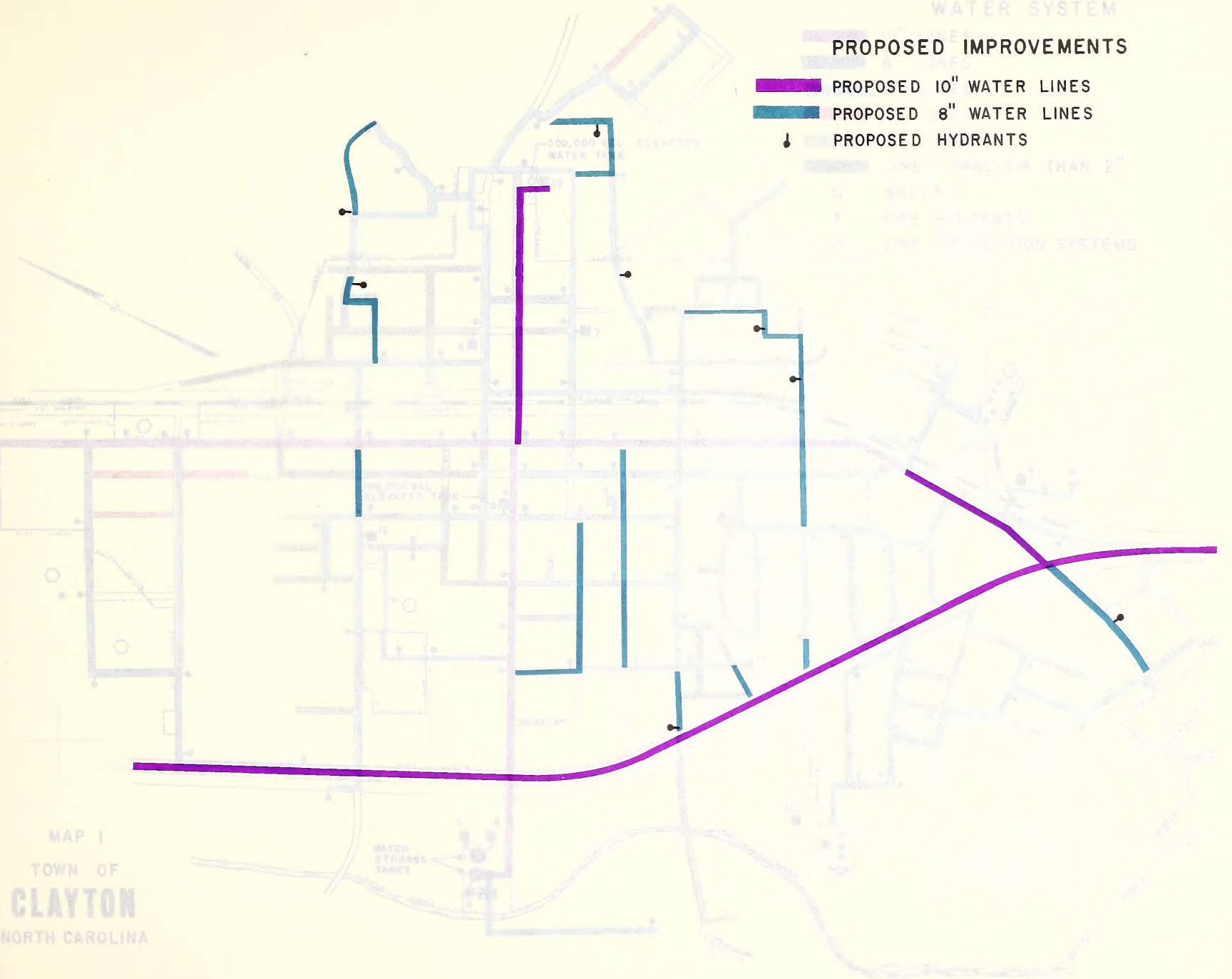
- b. Run a 16" main along U. S. Highway 70, from the fire hydrant located approximately 600 feet west of the Robertson Street intersection where the 8" main commences, eastward to the intersection of Center Street, where 8" main already exists;
 3. Continue policy of eliminating dead end lines and inadequate size lines with lines no less than 6" in diameter:
 - a. Install 6" line on Page Steet from Hamby Street up to Horne Street;
 - b. Install 6" line from Stalling Street up North Robertson Street and over to Stewart Street, and up Stewart Street to connect with 6" line at intersection with Barnes Street;
 - c. Install a 6" line along Winton Street from North Lombard Street over to North Smith Street and down Smith Street to Main Street;
 - d. Install a 6" line along Barbour Street from Main Street down to U. S. Highway 70;
 - f. Install a 6" line along Robertson Street from Horne Street up to Main Street;
 - g. Install a 6" line along Blanche Street from Fayetteville Street westward to Ellington Street to connect with existing 6" lines;
 4. Additional evaluated storage facilities will be needed as system expands.

WATER SYSTEM

PROPOSED IMPROVEMENTS

- PROPOSED 10" WATER LINES
- PROPOSED 8" WATER LINES
- PROPOSED HYDRANTS

LINE SMALLER THAN 2"
WELL
HYDRANT
LOCATION OF SECTION SYSTEMS



MAP I
TOWN OF
CLAYTON
NORTH CAROLINA

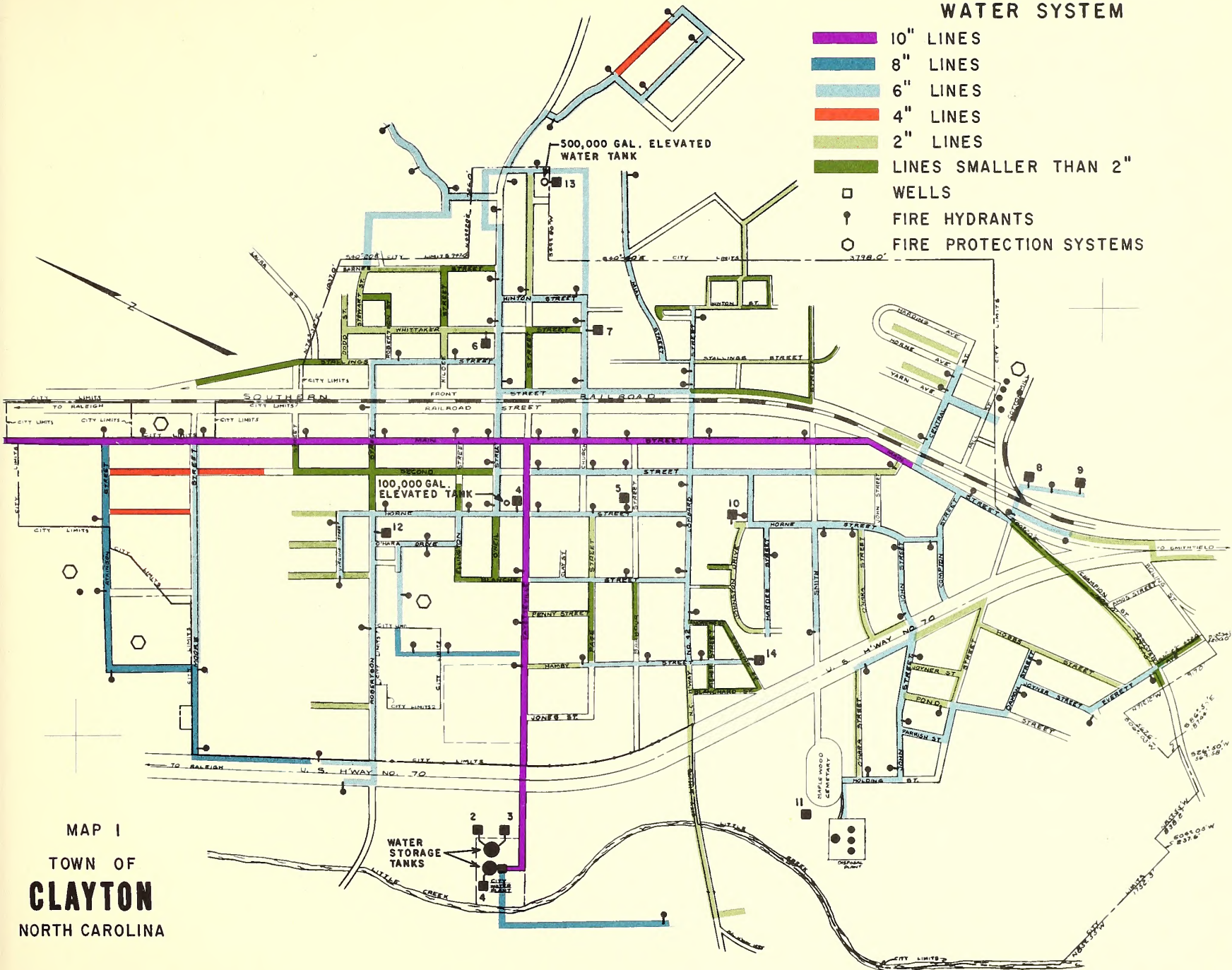
PROPOSED IMPROVEMENTS

PROPOSED 10" WATER LINES
PROPOSED 8" WATER LINES
PROPOSED HYDRANTS



WATER SYSTEM

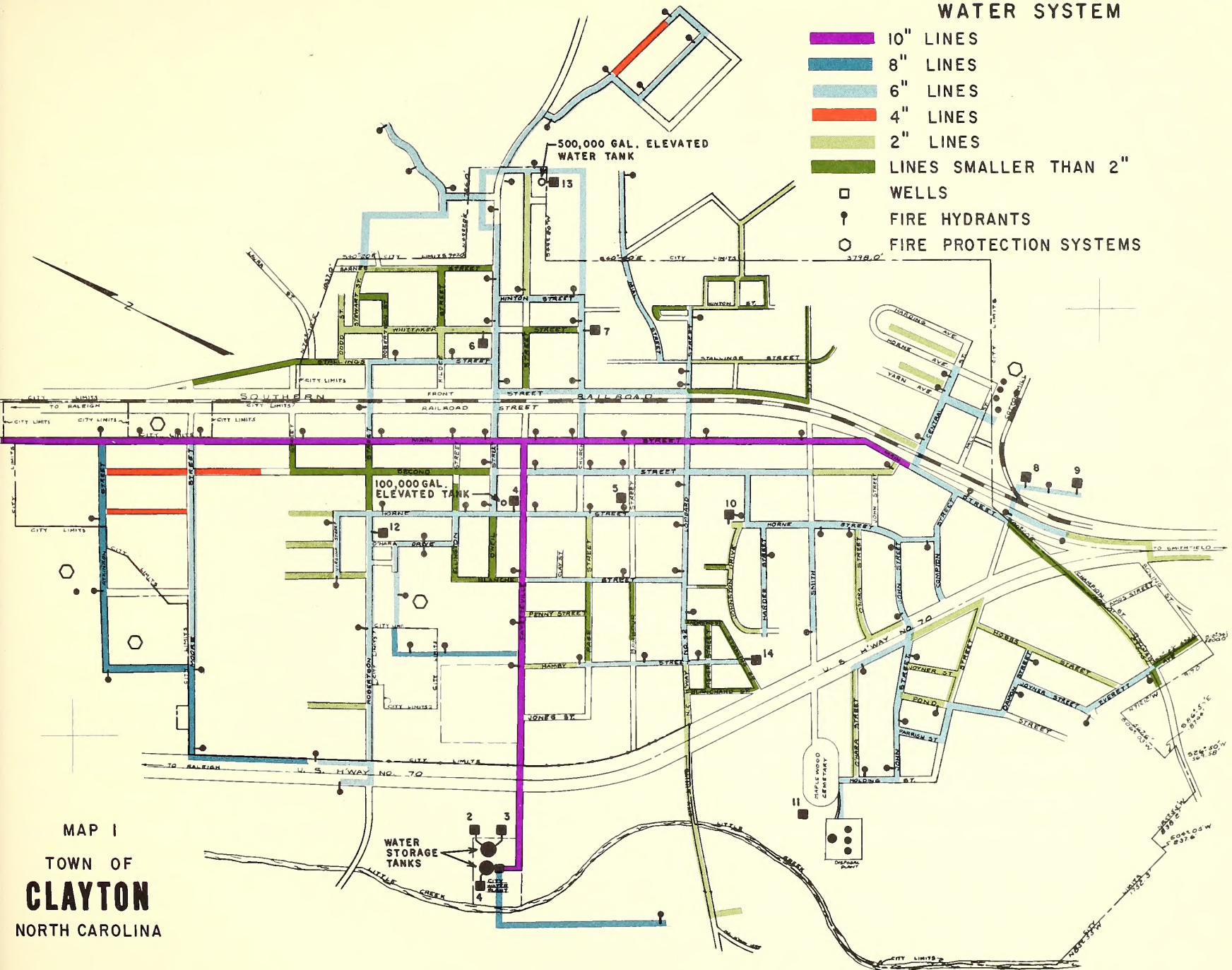
- 10" LINES
- 8" LINES
- 6" LINES
- 4" LINES
- 2" LINES
- LINES SMALLER THAN 2"
- WELLS
- FIRE HYDRANTS
- FIRE PROTECTION SYSTEMS



MAP I
TOWN OF
CLAYTON
NORTH CAROLINA

WATER SYSTEM

- 10" LINES
- 8" LINES
- 6" LINES
- 4" LINES
- 2" LINES
- LINES SMALLER THAN 2"
- WELLS
- FIRE HYDRANTS
- FIRE PROTECTION SYSTEMS



MAP I
TOWN OF
CLAYTON
NORTH CAROLINA

SANITARY SEWERAGE SYSTEM

Prior to the construction of the present sewage treatment plant in 1964, the Town of Clayton disposed raw sewage in Little Creek which flows along the southwest edge of the corporate limits. A study of the town's sewerage system was made by Boney and Newcomb Engineering, Incorporated, of Raleigh, North Carolina in March, 1959. At that time the system consisted of collection lines serving the central area of the town which fed into three collector outfall lines, each 8" in diameter, which in turn fed directly into Little Creek. This creek flows approximately seven and one-half miles and joins with Swift Creek, which continues for about six miles before emptying into the Neuse River below the City of Smithfield.

The engineering survey revealed that the three outfalls were emptying a total of about 300,000 gallons of untreated sewage per day into Little Creek. The creek itself had a flow of only 230,000 gallons per day just above the outfall lines. The engineering report recommended the construction of a treatment plant designed to treat an average daily sewage flow of 500,000 gallons.

EXISTING FACILITIES

Clayton's sewerage system serves most of the developed area within the corporate limits, a new subdivision just north of town and several industries adjacent to the corporate limits. The majority of the collection lines feed into five collector outfalls which in turn feed into the main outfall paralleling Little Creek along the southwest edge of town. This main outfall conducts the sewerage to the treatment plant located in the southern part of town. Two lift stations pump sewerage collected from the area of town east of the railroad and south of Church Street and the new subdivision along Meadowbrook Drive (in the collection system) and Edgewater Drive just north of the town limits to a point where it will flow by gravity to the treatment plant.

The treatment plan uses the bio-filtration process and provides secondary treatment of waste, removing 85-90% of the BOD.¹ The plant is designed to treat an average daily flow of 500,000 gallons of sewerage. This will serve a population equivalent² of approximately 5,000 persons. For flexibility the plant was constructed with two separate and similar units, each having an average daily capacity of 250,000 gallons. The bio-filtration process consists of primary clarification, high rate trickling filtration, secondary clarification, sludge digestion, sludge drying, chlorine contact tank and provisions for screening and grit removal. Recirculation is accomplished by returning the underflow from the secondary clarifiers to the primary clarifiers at the rate of 62,500 gallons per day. Recirculation around the trickling filter is at the rate of 500,000 gallon per day.

The plant is now treating an average daily flow of 330,000 gallons of sewage. During periods of heavy rain and high water daily flow exceeds 700,000 gallons, indicating excessive leakage of storm drainage into the sanitary sewerage system.

STANDARDS

1. The maximum treatment capacity of the plant should always be 25% more than the average demand. When 75% of the treatment capacity is reached, a study should be made to determine the most economical and desirable method and time to expand treatment capacity.
2. No septic tanks should be allowed within the corporate limits of the town.
3. The sanitary sewerage system should not allow excessive storm water to infiltrate the sanitary sewer lines.

¹Biochemical-Oxygen Demand (Oxygen required to decompose organic components of fluid wastes).

²Population equivalent refers to the fact that total wastes from households and industrial connections generally results in a daily per capita production of 100 gallons of wastes. Obviously with a small plant such as Clayton's, potential industries must be considered carefully since a single new operation with high waste volume could use up the entire remaining design capacity of the plant.

4. No sewer mains less than 8" in diameter should be laid by the town or by any builder.

RECOMMENDATIONS:

Average daily demand upon the treatment plant is only 66% of capacity, therefore there is no need to plan for expansion of treatment capacity in the immediate future. Any industries locating in Clayton should be required to pre-treat fluid wastes before acceptance by the town's sewerage system.

The recently annexed area at the northwestern end of town contains residences and commercial establishments using septic tanks. The town should continue its extension of collection lines in this area, and should require all residences, businesses and other establishments within 300 feet of a sewer main to connect to the town's system.¹

An engineering study should be undertaken immediately to determine where the major leakage of storm drainage into the sanitary sewerage system is taking place and corrective steps should be taken. In periods of extremely heavy runoff, the quantity of sand and gravel in the flow is so great that the plant operator channels the flow directly into Little Creek so as not to clog up the treatment plant. This means that for short periods of time untreated sewage is being deposited into Little Creek.

The town has already adopted the policy of requiring a minimum size main of 8" in diameter. When sections of main need to be replaced, care should be taken that a large enough size main is used to take care of possible increased flow over the next twenty year period.

In addition to collector mains in the southeastern area (now outside of Clayton's municipal boundary) Ragsdale Engineering and Blackman Associates in their 20 year plan for county water and sewer service for Johnston County proposed the construction of two systems of large trunk sewers which will open sizeable new areas of land for development in the north and eastern regions adjacent to the town. One leg of the

¹Enabling legislation granting authority to require connection to sewer lines is contained in G. S. 160-240.

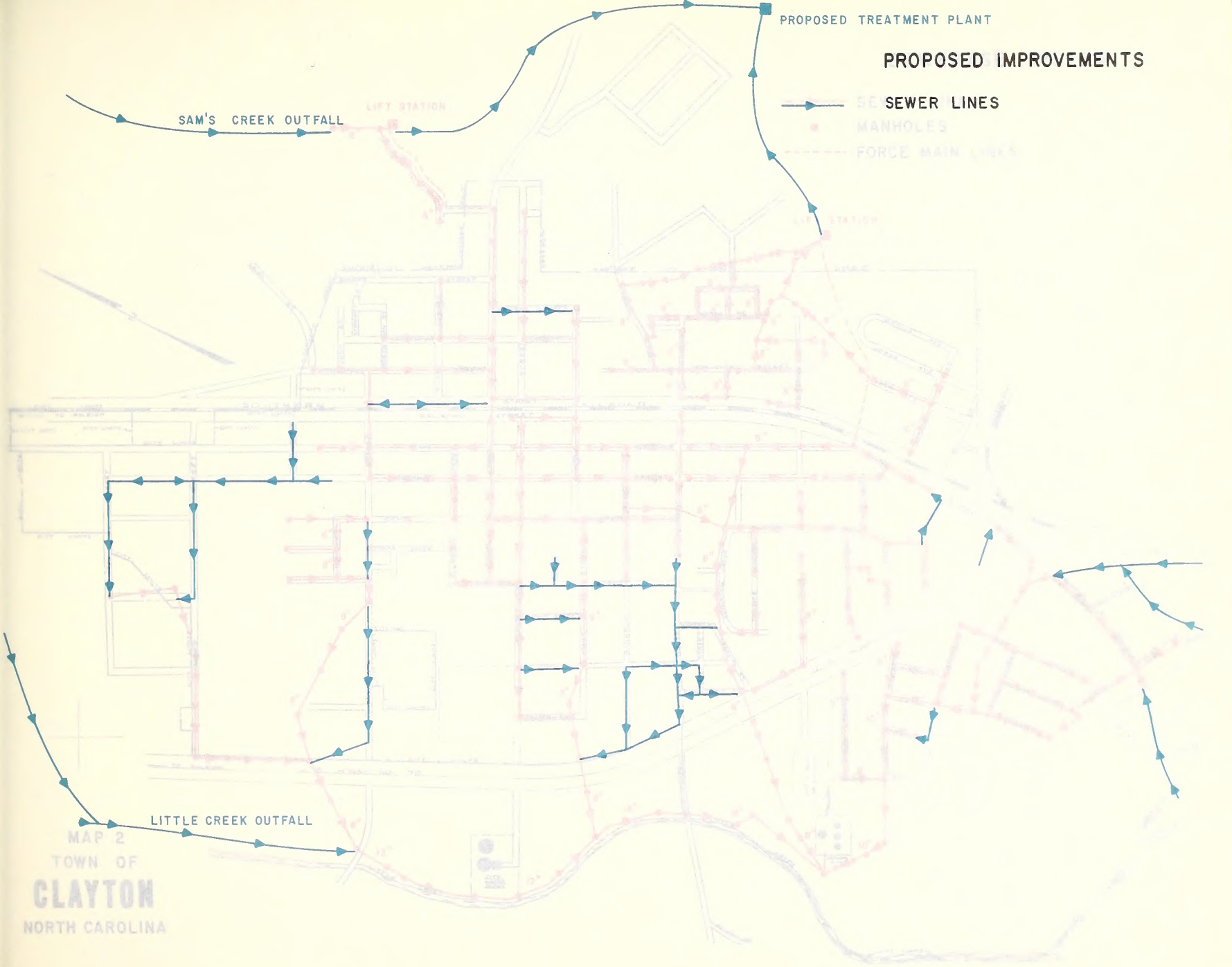
proposed system would drain to the existing Little Creek trunk sewer west of U. S. 70. On the eastern side of town a trunk sewer parallels the town and drains south to a proposed new 500,000 g.p.d. treatment plant. The eastern (Sam's creek) system will eliminate the need for the two lift stations and associated force mains now necessary to deliver wastes to the treatment plant from eastern sections of Clayton, thus allowing the entire system to function using gravity-flow. Construction of this latter improvement should not be undertaken until additional treatment capacity is needed.

Smaller individual collection lines to serve developed areas of town are illustrated on the sewer system map in addition to the two major projects mentioned above (note: because of the map's size, the two trunk lines could not be located accurately on this map, but their representative service areas are illustrated; for accurate location of these lines the reader should consult the Johnston County Comprehensive Water and Sewer Study).

PROPOSED TREATMENT PLANT

PROPOSED IMPROVEMENTS

- SE SEWER LINES
- MANHOLES
- FORCE MAIN LINES



SAM'S CREEK OUTFALL

LIFT STATION

LIFT STATION

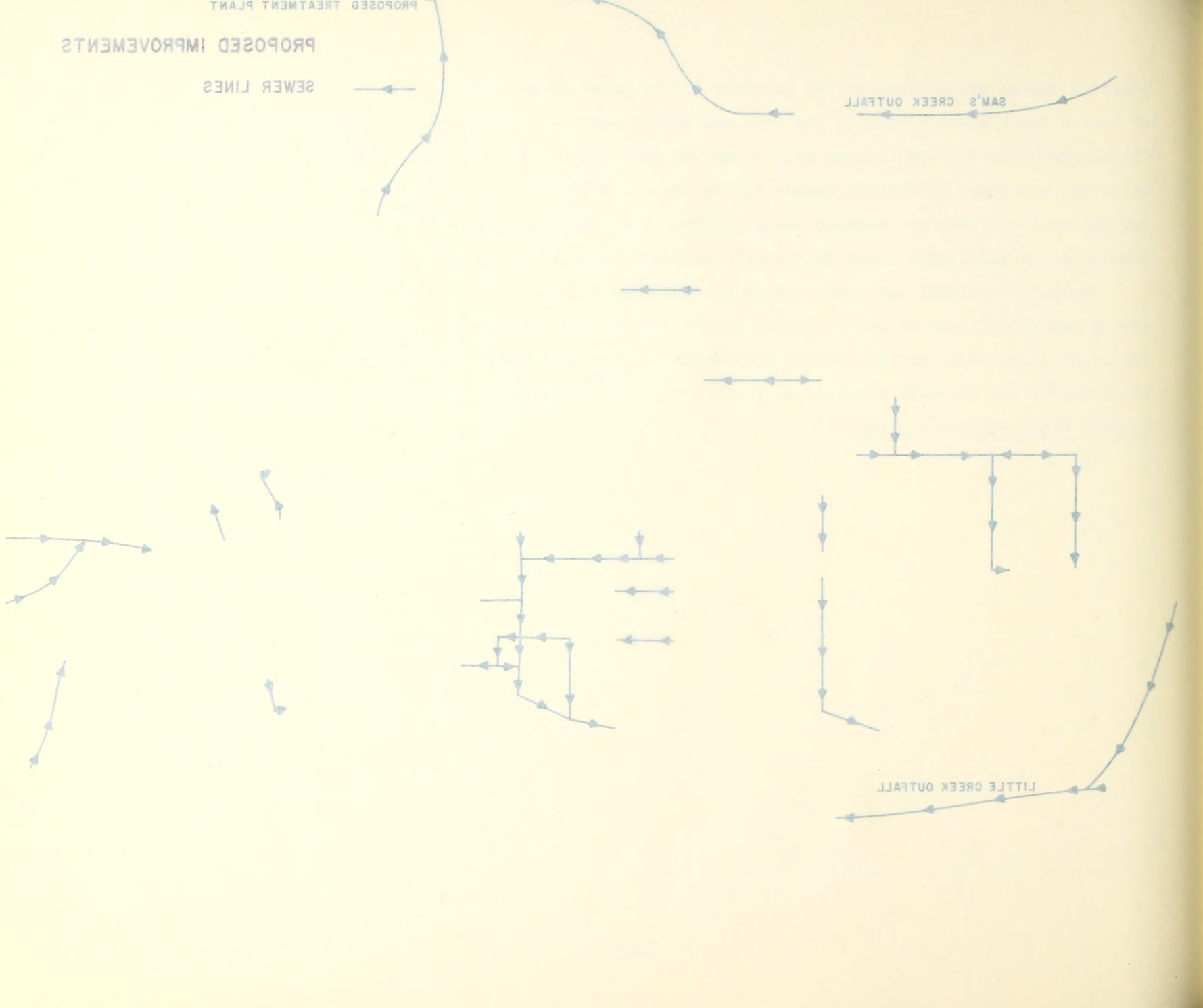
LITTLE CREEK OUTFALL

MAP 2
TOWN OF
CLAYTON
NORTH CAROLINA

PROPOSED IMPROVEMENTS

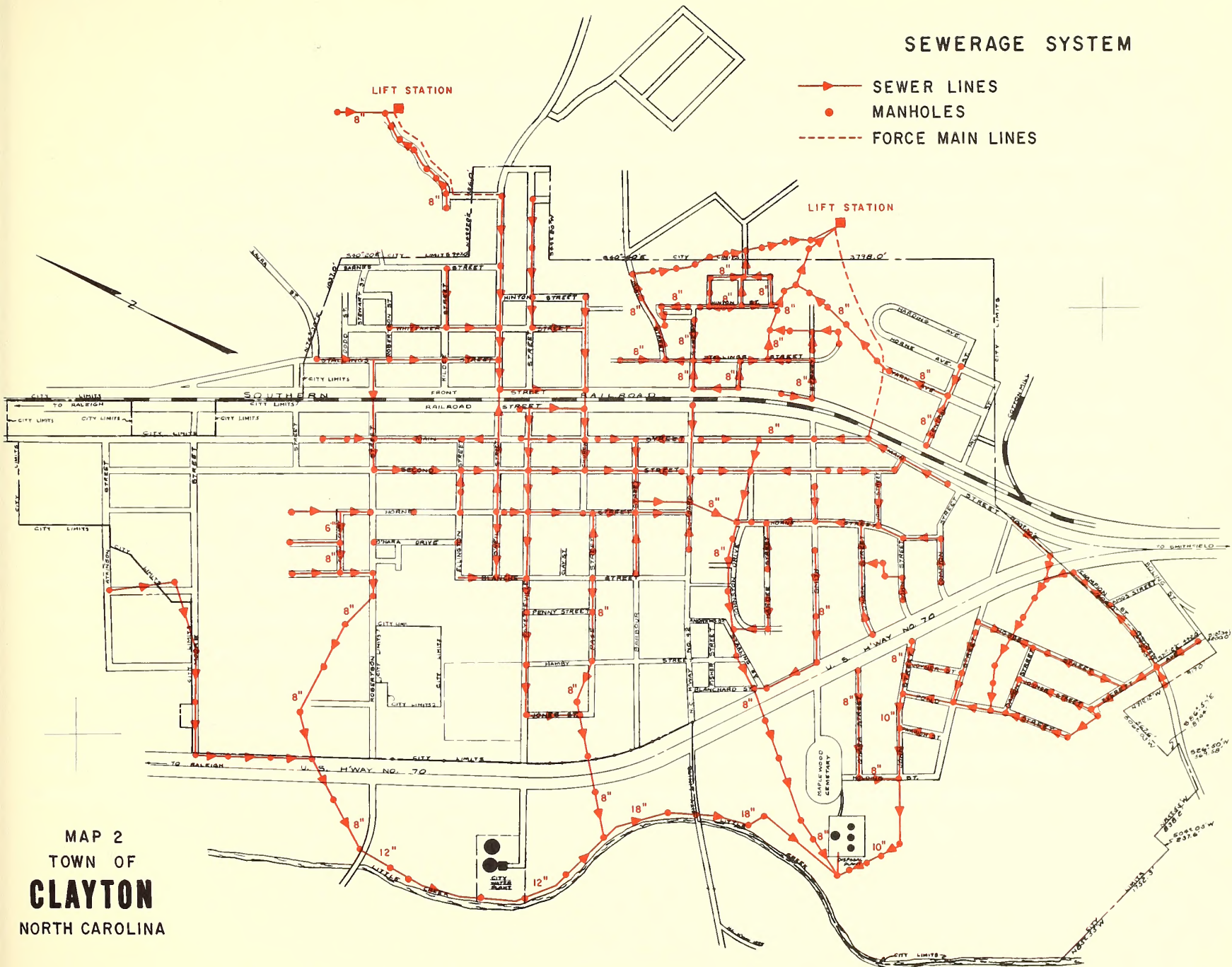
SEWER LINES

PROPOSED TREATMENT PLANT



SEWERAGE SYSTEM

- SEWER LINES
- MANHOLES
- FORCE MAIN LINES



MAP 2
TOWN OF
CLAYTON
NORTH CAROLINA

STORM DRAINAGE SYSTEM

As urbanization occurs, problems with surface water runoff increase. Natural vegetation which tends to retain surface water is destroyed; natural soil which absorbs surface water is covered over by buildings, streets and paved parking areas. The natural drainage process is thus disrupted, and a storm drainage system must be designed to accommodate the increased surface flow to prevent traffic hazards to vehicles and pedestrians, prevent erosion, and eliminate ponding which encourages mosquito breeding.

EXISTING FACILITIES

Clayton, located on a ridge between the Neuse River to the northeast and Little Creek to the southwest, is blessed with several natural drainage channels. With the exception of the central commercial area, very few storm sewer lines are required. The accompanying map shows the location of existing lines and catch basins. Storm mains range from 42" in diameter down to 12".

This combined natural and manmade system works well. One major problem exists, however: during heavy surface water runoff considerable amounts of surface water flow into the sanitary sewerage system carrying large amounts of sand and gravel, which can severely hamper operation of the treatment plant.

Problems are now occurring along the south side of U. S. Highway 70, particularly along John Street. A 36" storm drain under the highway empties a large volume of surface drainage out into a drainage ditch that is piped under several streets that lead off from John Street. These drainage pipes are now inadequate to handle the volume of water being dumped into the ditch since the highway was constructed. Homeowners complain to the town about their yards flooding during heavy rains and wet seasons.

STANDARDS

1. A town's storm drainage system should have the capability of keeping all areas of the town well drained, even during the heaviest rainfall. The system should be designed to accommodate development for 20 to 30 years.
2. Where natural drainage channels form the basis of the drainage system, these channels should be inspected for trash buildup and cleaned out at least annually. Every five years, or more frequently if necessary, these channels should be rechanneled.
3. If natural drainage channels continue to overflow, a program of widening and stabilizing these channels should be initiated.
4. Developers and builders should be required to install adequate storm drainage facilities.

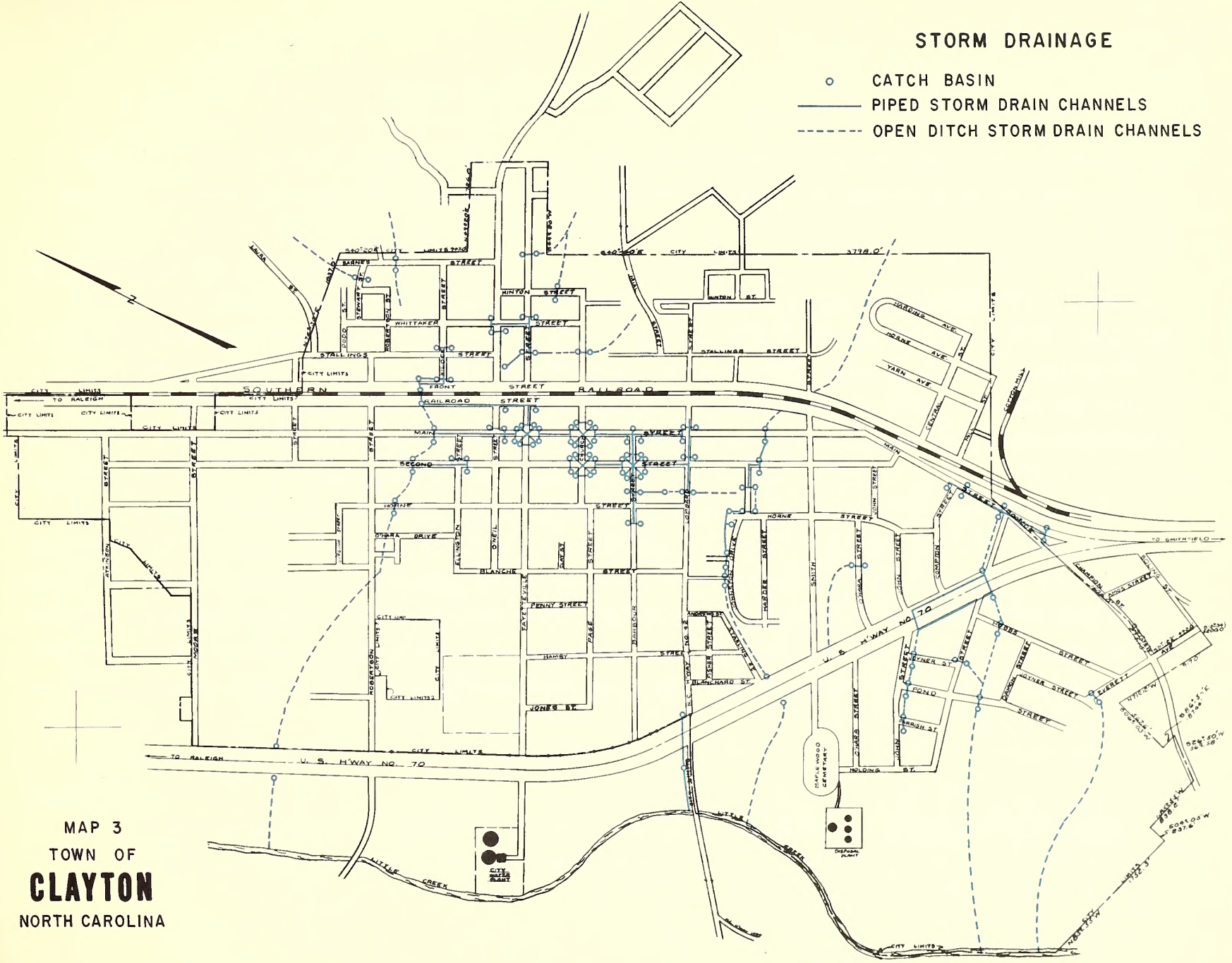
RECOMMENDATIONS

An engineering study of the storm drainage system should be carried out immediately to identify the sources of the large volume of surface water entering the sanitary sewerage system. Corrective measures should be carried out immediately.

Subdivision regulations need to be adopted and rigidly enforced by the town to insure that developers install proper drainage facilities in new subdivisions and other developments; provision should be made for requiring oversized facilities where future development in the same drainage basin will require larger pipe, with the developer receiving reimbursement for additional cost from the town (either a single reimbursement or using an acreage formula with the developer receiving rebates as development in the basin occurs, a policy which has the effect of curbing "leapfrog" development beyond existing development, and thus serves to reduce public costs for utility lines crossing undeveloped parcels to reach distant subdivisions).

STORM DRAINAGE

- CATCH BASIN
- PIPED STORM DRAIN CHANNELS
- - - OPEN DITCH STORM DRAIN CHANNELS



MAP 3
TOWN OF
CLAYTON
NORTH CAROLINA

REFUSE COLLECTION AND DISPOSAL

One of the most important services that a town renders to its citizens is that of refuse collection and disposal. Effective provisions for this service are vital to the health and appearance of the community.

EXISTING FACILITIES AND SERVICES

The town of Clayton now provides daily garbage and trash pickup in commercial and industrial locations; pickups are made twice weekly in the residential areas. The town owns a 1966 International packer truck and 4 trash trucks. Refuse is dumped at a 22 acre site approximately one mile north of town off Laura Street (S.R. 1709). Dead animals and other odor-causing refuse are covered daily. All other trash and refuse is burned once a week and covered every two months. Large items are dumped in a ravine and covered periodically. The area is fenced and grassed around the entrance.

Town officials have been encouraging Johnston County to organize and operate a series of landfills but the County has shown little concern in this area to date. (The Town of Clayton has opened its existing facilities to the surrounding county residents at no charge.) Clayton is therefore attempting to establish an approved sanitary landfill on its own initiative. The town has acquired a 75 acre site about $1\frac{1}{2}$ miles northeast of town and has applied to the N. C. Department of Water and Air Resources for an extension of its burning permit until it is able to get its landfill in operation or get the County to operate a landfill in the area.

STANDARDS

1. Collection of refuse in commercial and industrial areas should be on a daily basis and should be at least every three days in residential areas.

2. While the use of the landfill by private citizens may be allowed, regulations and supervision should be provided to see that the operation meets standards set by the State Health Department.
3. An ordinance regulating the type of garbage and truck containers used should be drawn up and rigidly enforced to protect the health and appearance of the entire community.

RECOMMENDATIONS

Local officials should continue to press the county toward the development of a county-wide landfill system. Should the county-wide landfill system become a reality, Clayton should lease or sell its site to the county for operation.

Leasing the site would be the more desirable alternative, since the town wishes to use the site for a park when exhausted for waste disposal purposes. This is an excellent means of utilizing the land, since it will be unsuitable for building foundations and has approximately 1,000 feet of frontage on the Neuse River. The location is also excellent because of the development potential in the Sam's Creek basin which will result from the construction of the trunk sewer proposed.

The chassis of the packer truck should be replaced within the next year. The recent annexation of territory at the western end of town and increasing population growth will require the addition of another packer truck and crew within three to five years.

Garbage collections in residential areas should be increased to a frequency of three collections weekly. If this is financially infeasible on a year round basis at this time, this service should at the minimum, be provided in the hot summer months when uncollected waste is more offensive and represents a greater health hazard.

As soon as Clayton has access to an approved landfill, it will be meeting all of the standards for a sound refuse collection and disposal system.

STREETS

The two major functions of a street system are to provide efficient flow of traffic within, through and around the town and to provide access to the various land uses in the town. Traffic problems are less likely to occur when both traffic volume and land service demands are fairly low. An efficient street system should not require more than 25 percent of the total developed land in the town. Streets are expensive to build and maintain and therefore should be designed for specific functions. There are three basic types of streets in a system:

1. Minor or local streets which provide access to abutting property. These streets should be designed so as to discourage through traffic;
2. Collector streets which channel traffic from the minor street system to the major thoroughfares. These streets will handle a heavier volume of traffic and should be constructed accordingly;
3. Major thoroughfares which provide safe and convenient movement of traffic through and around the entire town and surrounding area.

EXISTING SYSTEM

In the older parts of Clayton the streets are laid out on a grid pattern. More recent additions to the street system are changing the appearance of the system. Topography is requiring changes in some instances.

Two major thoroughfares form a part of the community's street system: four lane U. S. Highway 70 runs along the southwest boundary and through the southern part of Clayton; N. C. Highway 42 runs through the southern part of the town. These routes are part of the State Highway System. Lombard Street, Robertson Street, Main Street, Champion Street, and portions of O'Neil, Moore, Atkinson and Stallings Streets are also part of the State Highway System.

There are 17.78 miles of town-maintained streets in the local street system; 4.04 miles of these are unpaved. Approximately two-thirds of the unpaved streets are in the recently annexed area at the western end of town.

STANDARDS

1. Initial construction of new streets should be a financial responsibility of the land developer. New streets dedicated and opened in this manner should be constructed according to the town's material specifications and design standards.
2. The municipality should have a long-range Thoroughfare Plan to guide the wise development of new streets. Such a plan provides functional designations for new right-of-way required and existing streets, distinguishing between traffic-carrying roads and streets required to serve fronting properties. The system of major and minor thoroughfares would be designed to interconnect major traffic generators with other parts of the town in minimum time.
3. Subdivision Regulations should be adopted to insure that new developments provide safe, efficient street networks and to provide the municipality a legal technique to acquire right-of-way alignments designated on the Thoroughfare Plan. (Such regulations should incorporate the provisions of section one above).
4. The town should develop a schedule for street improvements to provide necessary maintenance and improvements over a definite period of years based on financial potential. Early attention should be given to the paving of those streets which are now surfaced with soil and gravel, with resurfacing being carried out only where critically needed. Powell Bill funds should be earmarked for carrying out these improvements each year (the General Assembly has recently enacted legislation which would double these receipts, and thus allow acceleration of this program). The plan

once developed, should be adopted as an official policy by resolution of the town board, and examined annually during preparation of the budget to review progress and schedule new work of the coming fiscal year.

RECOMMENDATIONS

Clayton's Planning Board should prepare a Thoroughfare Plan for the town to designate a functional street development pattern for new roads and upgrading of existing ones. Technical assistance in the development of such plans is available through the N. C. Department of Local Affairs, Division of Community Planning and the Planning and Research Division of the N. C. State Highway Commission. The plan should then be mutually adopted by the Town Board of Commissioners and State Highway Commission and negotiations begun to assign respective responsibilities for acquisition and improvement between the town and the Commission.

The Planning Board should prepare Subdivision Regulations establishing design, improvements, and recording standards for new development; assistance in preparing this ordinance is available from the Division of Community Planning.

An improvements schedule as proposed in item four above for adoption by the Town Board of Commissioners is illustrated on the street conditions map. The town is divided into five sectors; dirt streets in each sector should be surfaced during the coming five years. The following priorities were established on the basis of the number of houses located on dirt streets in each section:

PROPOSED PAVING SCHEDULE FOR DIRT STREETS

Fiscal Year	Sector	Number of Houses Located on Dirt or Gravel Surfaced Streets
1971-1972	III	36
1972-1973	I	27
1973-1974	V	16
1974-1975	II	12
1975-1976	IV	9

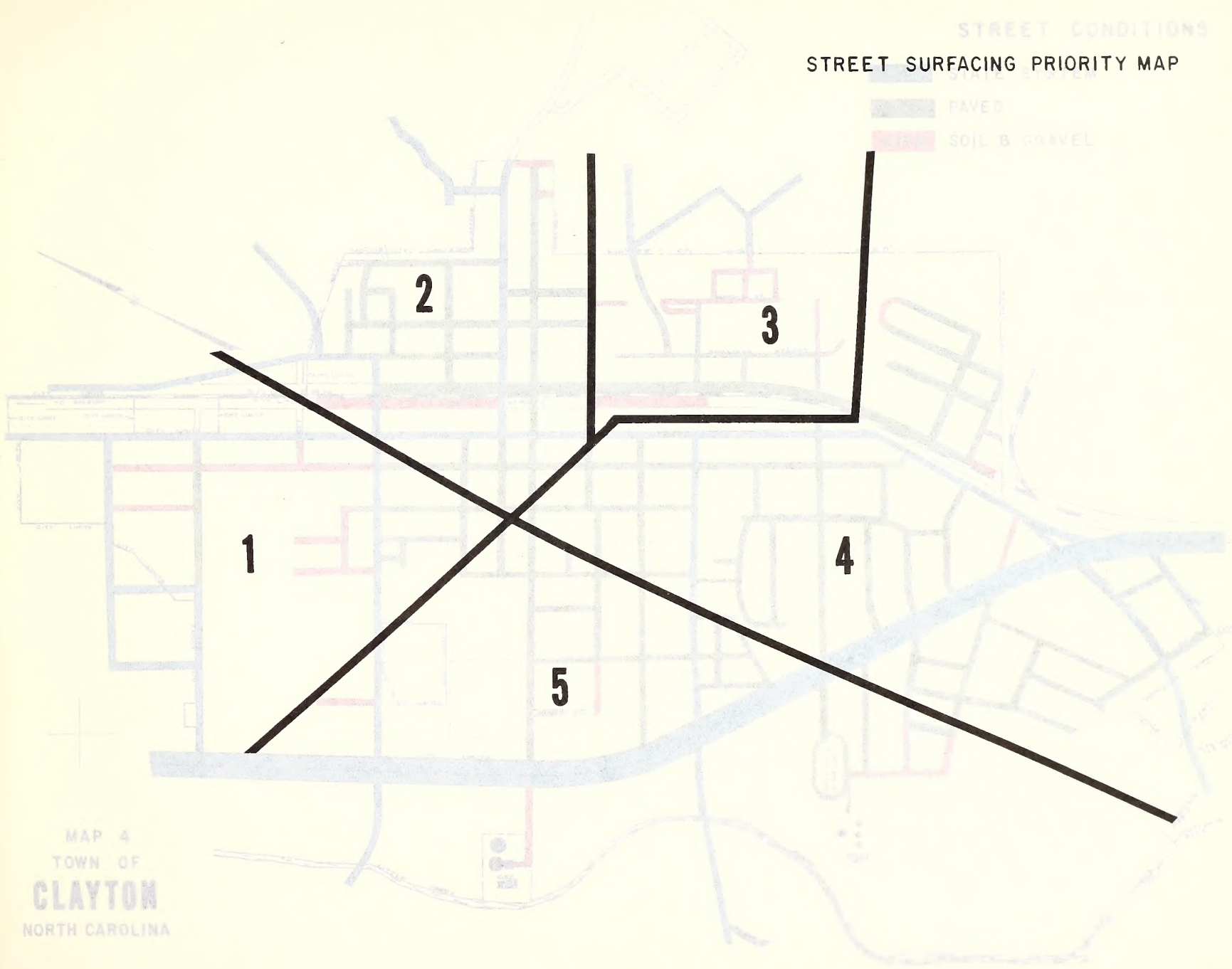
At the end of this five year period, the streets which were resurfaced in 1968 will fall due for new pavement.¹

¹The N. C. State Highway Commission estimates useful surface life at 7 - 10 years.

STREET CONDITIONS

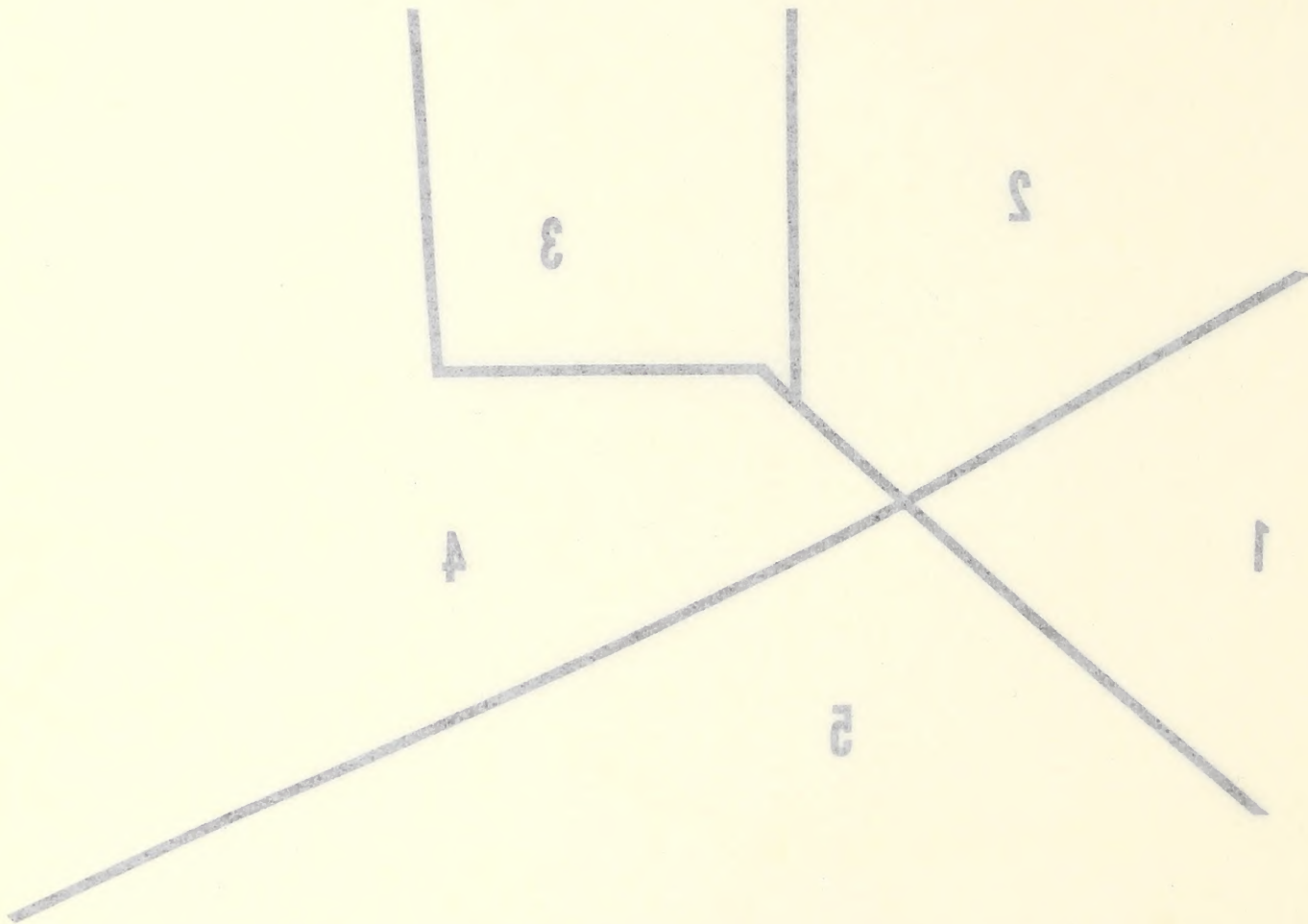
STREET SURFACING PRIORITY MAP

- PAVED
- SOIL & GRAVEL



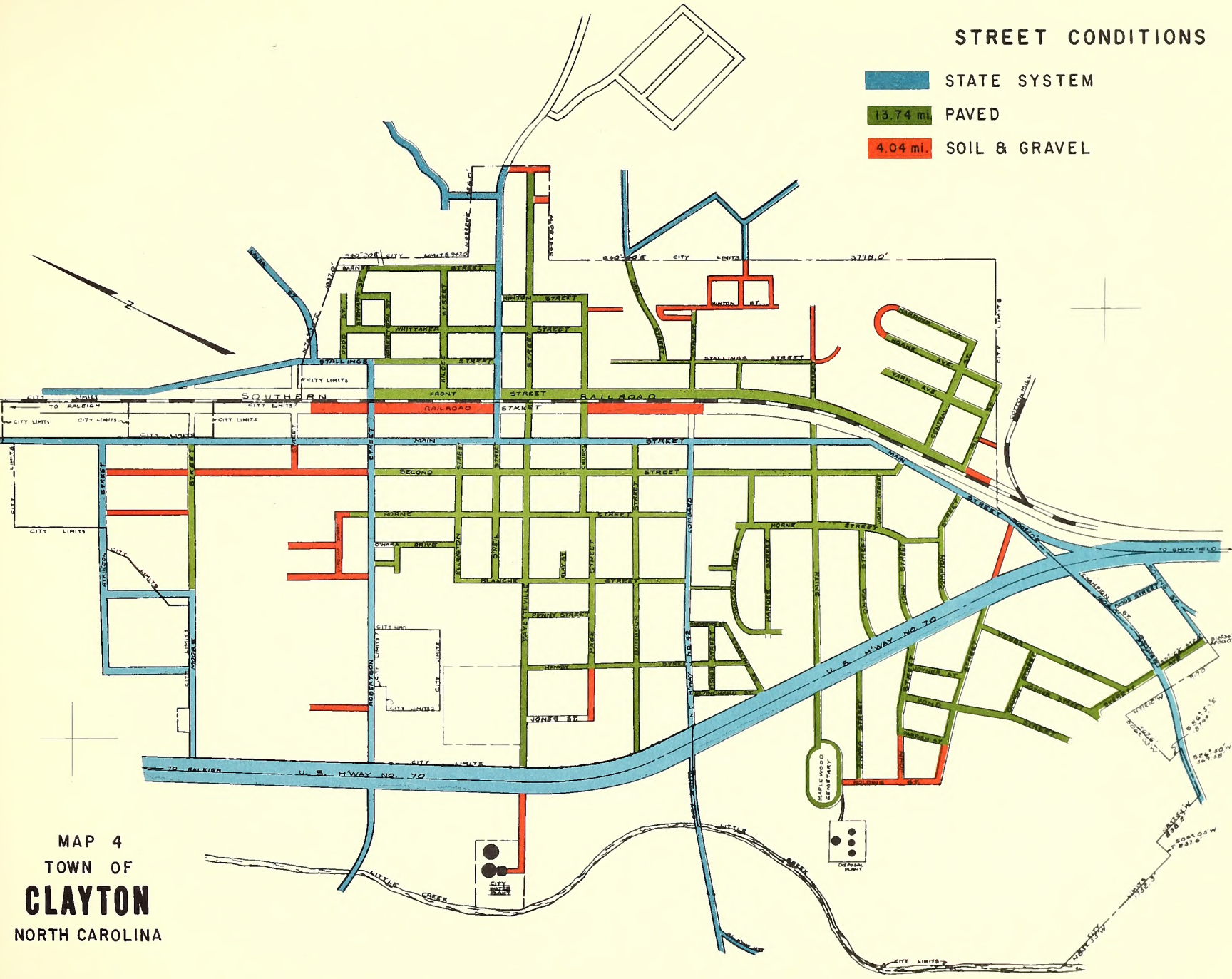
MAP 4
TOWN OF
CLAYTON
NORTH CAROLINA

STREET SURFACING PRIORITY MAP



STREET CONDITIONS

- STATE SYSTEM
- 13.74 mi. PAVED
- 4.04 mi. SOIL & GRAVEL



MAP 4
TOWN OF
CLAYTON
NORTH CAROLINA

STREET LIGHTING

Town street lighting methods have been greatly improved in recent years. New types of luminaires and high intensity capabilities have completely outmoded the old incandescent street light. Even though street lighting produces no revenue, if adequately provided it will reduce driving hazards and crime. Therefore, the installation and careful maintenance of an adequate street lighting system has become a modern necessity.

EXISTING FACILITIES

Clayton's street lighting system is owned by the town and is maintained by the Public Works Department. The town has just recently converted the entire lighting system outside the central commercial area from incandescent to mercury vapor lighting. There are now only two types of lights in use. The central commercial area is well illuminated by the Whiteway Fluorescent Lamps each of which contain 4-8' G. E. Power Groove tubes and is rated at 60,000 lumens. The remainder of town is lighted by the standard mercury vapor light rated at 175 watts and 7,000 lumens. The town has also installed street lights in the two developing subdivisions to the north and northeast of town.

STANDARDS

1. Street lights should be installed on all streets within the town limits at intervals of no more than 400' in the business district and along major thoroughfares, and at intervals of no more than 600' (or at each street intersection) in the remaining areas of town.
2. The following rated lights should be the minimum ratings utilized in each of the following areas:
 - a) Central commercial area - - 20,000 lumens;
 - b) Major thoroughfares - - 6,000 lumens;
 - c) Residential areas - - 2,500 lumens.

RECOMMENDATIONS

Clayton's excellent street lighting system exceeds all the above standards. It is recommended that the town continue its sound policies in extending and maintaining its system.

SIDEWALKS, CURBS AND GUTTER

Sidewalks constitute a necessary though infrequently considered part of a town's transportation system which, when properly located, can serve to reduce automobile traffic in the town. While sidewalks can be provided easily when required in new developments, their installation is sometimes not desired by residents of older areas of towns where homes are close to the street.

Curbing and gutter provide a neat, attractive boundary to paved streets as well as collecting and channeling water to catch-basins for delivery to natural drainage channels. Sub-surface drainage replaces road-side drainage ditches and eliminates their costly maintenance (brush and weed cutting). Curbing serves to prevent pavement from breaking at edges and reduces pavement disintegration caused by water seeping under the roadway surface. Curbs also define entrances and exits at curb cuts and thus promote pedestrian safety. The cost of combination curbs and gutters is generally equal to the cost of stabilizing and paving, but this cost must be considered against the long-term savings realized in reduced street and open-ditch drainage channel maintenance costs.

An extraordinarily small number of streets in Clayton are without curb and gutter; these are illustrated by Map 7. Sidewalks connect two schools and the central shopping area with residential neighborhoods.

STANDARDS

Sidewalks

Sidewalks should be provided to connect residential neighborhoods with 1) the central shopping district; 2) shopping centers; 3) elementary and secondary schools; 4) churches and community centers. Sidewalks should be installed by developers of properties located near these uses, and they may be required

to do so under the terms of a municipal Subdivision Regulation ordinance. Sidewalks must be constructed with expansion joints to prevent disintegration caused by temperature changes, and should be built in the following widths:

<u>TYPE OF WALKWAY</u>	<u>WIDTH</u>
Residential area	2½ - 3 feet
Commercial areas *	10 - 20 feet

* Width required depends upon extent and location of benches, trash receptacles, signs, parking meters, electric and telephone poles.

Curbing and Gutters



Curbing and gutters should be installed in the central business district and other similar areas where intense development creates rapid runoff of rainwater. Curbs and gutters should be installed by developers at the time of subdivision. The town should adopt construction specifications for materials and techniques of installation. Curb and gutter should be provided simultaneously with scheduled street paving improvements (see recommendations of preceding section).

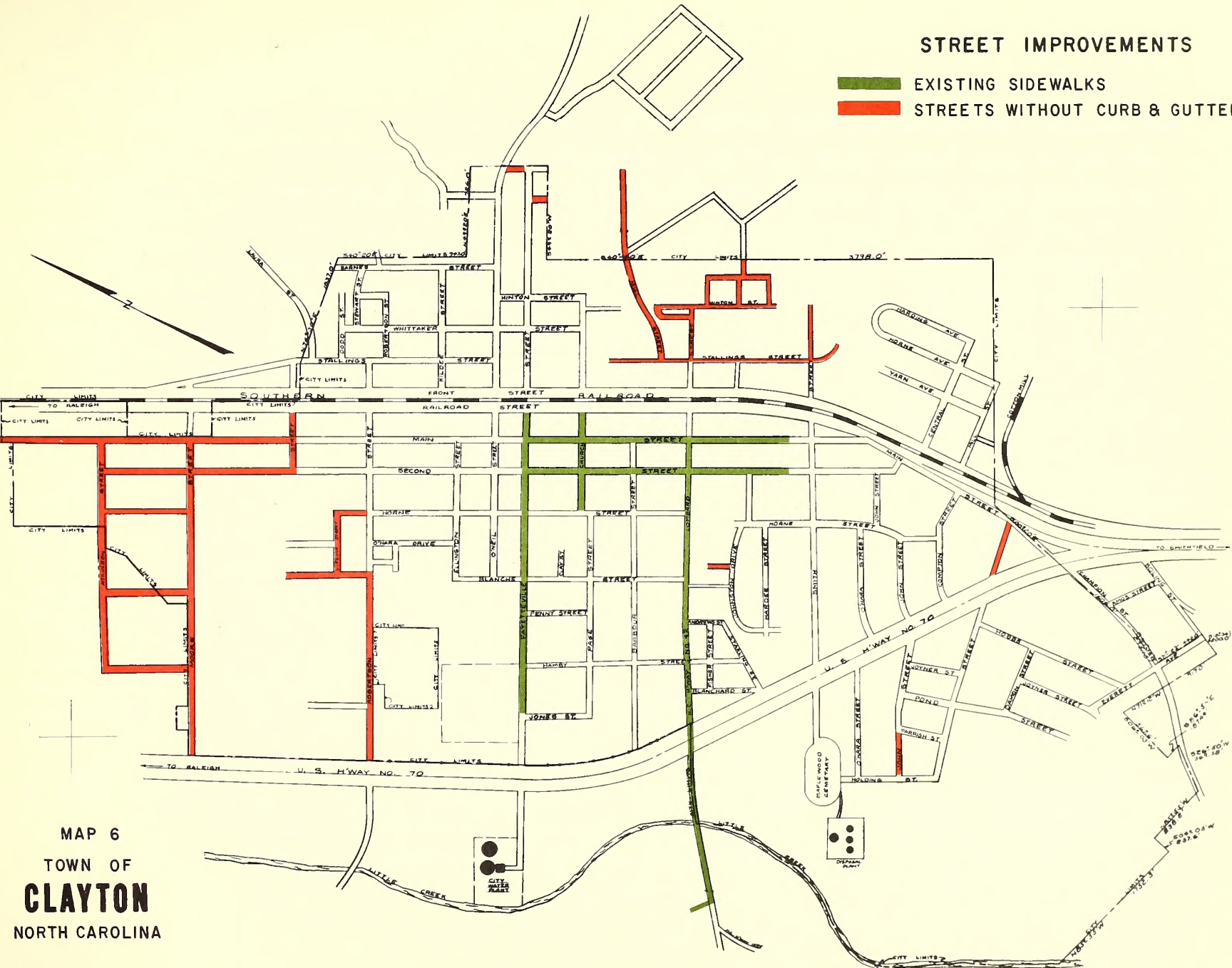
RECOMMENDATIONS

Subdivision regulations requiring the provision of curb and gutter by developers as new land is opened up should be adopted. Curb and gutter should be provided on those streets where it is not now installed at the time the street itself is improved (see recommendations of section of this report on "streets").

Sidewalk should be added along Lombard Street from Main Street to the two schools east of the railroad.

STREET IMPROVEMENTS

-  EXISTING SIDEWALKS
-  STREETS WITHOUT CURB & GUTTER



MAP 6
TOWN OF
CLAYTON
NORTH CAROLINA

SCHOOLS

EXISTING FACILITIES

The public schools in the Clayton area are a part of the Johnston County School System. There are four schools -- two within the corporate limits and two adjacent to the town. Three schools serve an area from the Wake County line (approximately three miles to the northwest) and extending approximately 12 miles in all other directions.

Clayton Senior High School and Clayton Elementary School are within the corporate limits. Cooper Junior High School is located to the northeast of the corporate limits of Clayton, and Clayton Primary School is across Little Creek from the southwestern town limits. All schools are integrated.

The accompanying table gives pertinent statistics on the four schools.

STATISTICS ON CLAYTON'S SCHOOLS*

SCHOOL NAME	SITE SIZE	NO. OF TEACHERS	GRADES SERVED	NO. OF BUILDINGS	NO. OF CLASSROOMS	ENROLLMENT 1970-71	YEAR CONST.	
Clayton High School	17 ac.	32	9 - 12	3	32	625 cap. 581	1968	18 pupils per classroom and per teacher
Clayton Elem.	3.2 ac.	29	4 - 6	2	32	675 cap. 610	1915 1927	19 pupils per classroom & 21 pupils per teacher
Cooper Junior High	25 ac.	15	7 - 8	2	16	375 cap. 333	1952	21 pupils per classroom & 22 pupils per teacher
Clayton Primary	23 ac.	16	1 - 3	1	16	Filled 404	1968	25 pupils per classroom and per teacher

* Data obtained from Mr. E. S. Simpson, Supt., Johnston County School System.

STANDARDS

1. Schools should be located near the center of population and surrounding land uses should be compatible and conducive to good educational uses.
2. Where feasible, integration of school sites with parks should be employed to prevent duplication of recreation facilities and enhance the school's role as a community or neighborhood center.
3. According to the Division of School Planning, North Carolina Department of Public Instruction, walking distances from schools should be:
 - a) Primary Elementary - $\frac{1}{2}$ to $\frac{3}{4}$ mile;
 - b) Junior High - 1 to $1\frac{1}{2}$ miles;
 - c) Senior High - $1\frac{1}{2}$ to 2 miles;
4. School sites should meet the following standards:
 - a) Primary-Elementary - 10 acres plus 1 acre for each 100 enrollment (design capacity of physical plant).
 - b) Junior High - 20 acres plus 1 acre for each 100 enrollment (design capacity).
 - c) Senior High - 30 acres plus 1 acre for each 100 enrollment (design capacity).
5. Student enrollment should conform to the following standards as set by the Division of School Planning, North Carolina Department of Public Instruction;
 - a) Primary-Elementary (Grades 1-6) - 400 to 600 pupils;
 - b) Junior High (Grades 7-9) - 500 to 750 pupils;
 - c) Senior High (Grades 10-12) - 750 to 1,200 pupils.
6. There should be no more than 25-30 pupils per classroom if effective teaching is to be maintained.

RECOMMENDATIONS

School enrollment in Johnston County is expected to continue on a downward trend. In the Clayton schools, however, enrollment is expected to continue to increase 3 to 5% annually as a result of the spillover of growth from the Raleigh-Wake County areas.

In regard to the present schools, there are no serious location or traffic problems. Parking for staff is adequate at all four schools. Student parking at the high school is overcrowded. Walking distance to Clayton Primary School is rather long for most pupils.

The only school with serious site size problems is Clayton Elementary School with only 3.2 acres. The high school site of 17 acres is below the recommended 30 acres plus 1 acre per each 100 pupils. The other two sites exceed the recommended standards.

Only one of the four schools has a capacity enrollment - the relatively new Clayton Primary School. The number of pupils per classroom and the teacher-pupil ratio at all four schools meets or exceeds the standards.

The most pressing need is additional classrooms at Clayton Primary School. Additional classrooms, a shop and laboratory facilities are needed at the high school. Additional classrooms will be needed at Cooper Junior High School.

The most immediate site needs are either an expansion of the existing Clayton Elementary School Site or the acquisition of an entirely new site for this school. Since it is located near the heart of town, additional land may be unavailable or too expensive to acquire. The existing buildings were constructed in 1915 and 1927. A site of at least 15 acres as near the center of town as possible would be ideal.

If the site of the high school cannot be increased, it may be necessary to construct another high school within ten years. If a new site must be acquired, it should be on a major thoroughfare so as to offer easy access by traffic from all parts of the service area. The existing site of Cooper Junior

School should enable that plant to be expanded to meet the needs of the area for the next 10-20 years.

The Division of School Planning of the North Carolina Department of Public Instruction is preparing to make a study of the entire Johnston County Public School System. This study will make detailed recommendations for future expansion and development of school plants in the Clayton area. These recommendations should be taken into consideration before implementation of the above recommendations is undertaken.

PUBLIC LIBRARY

Clayton's Public Library has been in existence since the mid 1920's. The Clayton Women's Club was instrumental in promoting the establishment of the local library. Several public-spirited citizens donated approximately 500 books to form the nucleus of the library. When plans for a town hall were being drawn up, town officials included space for the library. This building was completed and occupied in 1927, and the library has occupied these same quarters up to the present.

In 1931 the library was open to the public two afternoons a week. The salary of the part-time librarian was paid by the local Women's Club. From the mid 1930's to the early 1940's WPA funds were appropriated to pay the librarian's salary.

By 1941 the library's stock of books had increased to 1,318 volumes. During the same year the Town Board of Commissioners voted to begin paying the librarian's salary.

The library continued to grow both in number of volumes available for circulation and in hours of service to the public. Space in the main room became so crowded that the small adjoining storage room had to be converted to a reading room for adults and young people and to provide additional shelving space.

Early in 1965, Mrs. B. A. Hocutt, an elderly resident of Clayton, deeded her home and lot to the town for the library, with the provision that she was to retain use of the home during the remaining years of her life. In May of that year the property was dedicated to be used for the proposed Hocutt-Ellington Memorial Library.

Clayton library became a branch of the Johnston County Library System when that system was organized in 1966. The book stock in the local library at that time had reached 6,814 volumes.

EXISTING FACILITIES AND SERVICES

The library still occupies the same space it was assigned when the municipal building was completed

and occupied in 1927, a large room approximately 15' x 30' in size with an 8' x 10' room adjoining, on the main floor of the building. This space is badly overcrowded. The large room now contains approximately 430 feet of shelving, one reading table with six chairs for children, card catalog, file and the librarian's desk. The small room which was originally used as a storage room, has been converted to house a reading table for youth and adults seating six, 130 feet of shelving and a storage cabinet. Parking space is available either on the street or in the unpaved municipal parking lot across the street from the municipal building.

The staff consists of a part-time librarian and, on Saturdays, a Neighborhood Youth Corps worker. The library is open to the public 20½ hours a week, from 1:30 p.m. to 5:00 p.m. Monday through Friday and from 9:00 a.m. to 12:00 noon on Saturday.

The annual report prepared by the Johnston County Library System indicated that as of June 30, 1970, the Clayton Public Library had a book stock of 6,814 volumes. Since the Clayton Library is a branch of the Johnston County System, its patrons have access to books in the main branch at Smithfield. The bookmobile visits Clayton once every four weeks and also makes regular stops in rural areas around Clayton. Through the Inter-Library Loan System and the N. C. State Library IN-WATS system additional resources and services are available. The 1970 report also showed that the Clayton Library circulated 6,788 adult books and 6,294 juvenile volumes. There were 606 registered adult borrowers and 634 registered juveniles.

The Clayton Library is funded by an annual appropriation from the town of \$3,079.92. Approximately two-thirds of this amount goes for salaries: the remainder is used to purchase new books, equipment and supplies. [The Library Board apportions the money appropriated over and above salaries for books, equipment and supplies. The librarian is given full authority to select new books to be purchased: the Library Board does make some recommendations however. The Smithfield branch processes the new

books for the library and also purchases new books if requested by the local librarian.

A savings account has been established in which contributions to the Lawrence Cooper Memorial Fund are deposited. This fund is designated for future development.

STANDARDS

Realizing that the library facilities in North Carolina as a whole were deficient according to national standards, the North Carolina Library Association set about to establish standards for libraries in the state. The following standards are applicable to the Clayton area:

1. A library should be freely available to all the people, should be convenient, accessible, and comfortably designed, and should provide a means of self-education through guidance programs.
2. A library should be open a minimum of 30 hours each week with a regular schedule providing for some morning, afternoon and evening use.
3. Bookmobiles should be provided for remote areas where demand for their use is warranted.
4. The library's book stock should include a minimum of from $1\frac{1}{2}$ - 2 books per person in the service area.
5. The book stock should be increased approximately 10% annually, and at least one-quarter of the new acquisitions should be books for children.
6. There should be one full-time staff member for every 3,000 people in the service area, and one-third of the staff should be professional librarians certified by the State.
7. A library should provide approximately one-half square feet of floor space for each person in the service area, and no library should contain less than 1,500 square feet.

RECOMMENDATIONS

The present site of the library (and the dedicated site for the proposed new library) are conveniently

located adjacent to the central commercial area. Present quarters in the municipal building are fairly accessible and comfortable. A flight of 9 steps must be climbed for access, however, and the facilities are badly overcrowded. In order to meet Standard #1, it is recommended that the plans for the new library provide ground level access for invalids and the handicapped.

The present library service does not meet the standard of a minimum of 30 hours per week. It is recommended that at least ten additional hours be added to the present schedule and that some morning and evening hours be included.

Bookmobile service is being provided in surrounding rural areas.

Clayton's population according to the 1970 U. S. Census is 3,103. The standard of $1\frac{1}{2}$ - 2 books per capita would require a book stock of from 4,655 to 6,206 volumes. Clayton's 6,814 volumes is adequate. The library purchased 370 new volumes last year of which 150 were for children. In order to meet the above standards, new purchases should be increased to approximately 500 volumes per year.

Since there are 3,103 people in the service area, there should be one full-time librarian.

The present facilities provide only 550 square feet of floor space. According to the above standards, Clayton needs at least 1,557 square feet of floor space. -- 1,022 more than is now provided. The new library should be planned to serve at least 5,000 people by 1980, requiring at least 2,500 square feet of floor space.

The Library Board should develop plans for the proposed new library immediately. If circumstances prevent the implementation of these plans in the foreseeable future, some interim action will have to be taken. One possible course of action would be the renting of space for the library until a new facility is built. The existing library space in the municipal building should be used to alleviate the badly crowded situation in the Town Clerk's office.

MEDICAL CARE FACILITIES AND SERVICES

EXISTING FACILITIES AND PROGRAMS

The Town of Clayton has neither a hospital nor a full-time clinic, though scheduled clinics are provided in the Town Hall by the Johnston County Health Department. Persons requiring hospitalization must go to either Wake Memorial Hospital at the eastern edge of Raleigh or to Johnston Memorial Hospital at the northern edge of Smithfield. Wake Memorial is twenty miles distance (travel time approximately one-half hour) while Johnston Memorial Hospital is twelve miles distance (travel time of approximately twenty minutes). Ambulance service is provided by the Clayton Rescue Squad and two local funeral homes.

Clayton has two resident physicians, both general practitioners, and two dentists. All four have separate offices and facilities.

The Johnston County Health Department provides general immunization for children and tuberculin skin testing through a clinic held in the Clayton Town Hall on the second and fourth Wednesday's of each month from 2:00 to 3:30 p.m.

Additional health services are available through the Johnston County Health Department at its facilities in Smithfield adjacent to the Johnston Memorial Hospital. Services include family planning, maternity and pediatrics clinics, cancer and tuberculosis clinics, and an eye clinic for children and adults sponsored by the N. C. Commission for the Blind. Special facilities include an x-ray unit and general laboratory equipment.

RECOMMENDATIONS

The trend of recent years is still continuing - the attrition of physicians, even general practitioners, away from the more rural counties and small towns to urban areas with hospital facilities. Efforts to attract

physicians to small towns by constructing a clinic have not proved very successful.

Clayton can plan against such attrition by continuing to strengthen its facilities for getting people to the two hospitals serving the area as safely and quickly as possible. Continued expansion and improvement of the Clayton Rescue Squad seems to be the most logical solution to this need. Additional ambulances and personnel should be added as demands on services increase. Ambulances should be equipped and personnel trained according to the standards adopted by the State Board of Health.

Rather than just a clinic, Clayton might consider working toward the establishment of a branch of the Johnston Memorial Hospital in Clayton. There is a trend for county hospitals to move in this direction. Such a facility would provide for greater service than a local clinic and would tend to draw resident physicians to the area.

PARKS AND RECREATION FACILITIES

Local government's concern for parks and other recreation facilities varies greatly from area to area. The need for recreational space depends greatly upon the size of the municipality; a small town will not need as much park acreage per capita as a larger city because of the ease of access to undeveloped land. Another critical factor regulating park acreage is the financial resources of a community. However, regardless of the size of a community or its financial state, public recreation facilities are an essential function of the local government.

EXISTING FACILITIES AND SERVICES

At present there are no municipally owned parks or playgrounds in Clayton. A local industry has given the town the use of a large lot next to the American Legion Building for a playground. The Town has installed playground equipment. The physical education and playground facilities of the schools in Clayton are available for recreation when not in use by the schools. The playground across Second Street from Clayton Elementary School has paved basketball courts and volleyball courts and open space for other types of outdoor games. This playground is well lighted and is extensively used by children and young people from the entire town, even during evening hours. The Cooper Junior High School gymnasium also sees extensive use after school hours.

The town has also put up several basketball goals in several low income neighborhoods where need for such was seen. These have been extensively used, especially by smaller children who cannot readily get to the paved basketball courts across from Clayton Elementary School.

The town sponsors an eight week summer recreation program. This program has been underway for about six years under the direction of a coach from one of the local schools. The director has the help of

one adult assistant director and several college students. The program is designed mainly to serve children (school age) and young people, but adults and pre-school children are also included. Most of the activities are centered around the gyms and outdoor recreation facilities of Clayton Elementary School and Cooper Junior High School. The two ballfields at the high school are used and occasionally the gym. The program consists mainly of supervised recreation -- basketball, volleyball, softball, horseshoes, checkers and other activities. Tournaments are organized and staged. There is a basketball clinic for 6th & 7th graders and training in arts and crafts for all ages. A physical fitness class for ladies has been conducted.

The summer recreation program sponsors a Babe Ruth League for boys 13-15 years old. Little league baseball is sponsored by the local Civitan Club. The summer program also includes a softball league and a basketball league for young men.

Hours of service are flexible -- from 8:30 or 9:00 a.m. until 4:30 p.m. and some evening hours. No registration is required to participate in the program. There is a fairly large turnover since a number of the participants have to help harvest farm crops.

The budget for this program varies from summer to summer, but averages around \$2,500.

Currently, the town is negotiating for the purchase of a large tract of land to be used as a permanent park. Efforts to obtain a 25 acre site southwest across Little Creek from the corporate limits, part of the old Pythian Home property, and a large site near Clayton Spinning Company have proved unsuccessful. An eight to ten acre site near Norwich Mills on the western part of town is now being sought through an Open Space Grant from the Department of Housing and Urban Development.

A five acre tract of land, an old lake bed now grown up in pines and brush, has been given to the town. This parcel of land is in the southern part of town off Durham Street.

STANDARDS

According to the National Recreation Association, the following minimum standards are applicable to municipally owned parks and playgrounds.

1. Total acreage for all public recreation uses in the town should be at least 10 acres per 1,000 persons.
2. Minimum standards for specific types of parks and playgrounds are:
 - a) Neighborhood Playground - 1 acre per 1,000 persons -- 8 to 12 acres in size, developed to serve children primarily within a one-half mile radius. The playground should contain playground apparatus, a wading pool, a shelter for passive recreation and lighted game fields for evening use.
 - b) Neighborhood Park - 1 acre per 1,000 persons -- 8 to 12 acres in size developed primarily for passive recreation use by all age groups within one-half mile radius. The site should contain sidewalks, landscaping, benches, water fountains, picnic facilities, and play apparatus for small children.
 - c) Neighborhood Park-Playground - Functions -- a) and b) above could be combined on one site 16 to 25 acres in size. The ideal location for such a site is adjacent to a neighborhood elementary school and would include joint recreation space and facilities. People of all ages within one-half mile of the site should be served.
 - d) Community Park -- 1 acre per 1,000 persons -- 15 to 25 acres in size, developed to serve the entire town. This park should contain such facilities as lighted ball diamonds, surfaced and lighted basketball and volleyball courts, tennis courts, and other open play areas, a swimming pool (preferably all-weather) and a multi-purpose recreation building.
3. In order to provide essential playground supervision, a minimum of one playground director, one assistant director, and one recreation leader should be employed during the summer operation period

for each playground, and one special activity leader for each three parks operated by the town.

4. Park and recreation facility maintenance is imperative to protect the town's investment. Additional financing and personnel should be employed for this purpose.

RECOMMENDATIONS

In order to meet the total acreage need for all public recreation uses, Clayton needs to acquire at least 30 acres of land immediately. An additional 20 acres will be needed by 1990. Even if the town acquires the 8-10 acres site near Norwich Mills, it should still continue efforts to find a site at least 20 acres in size for a Community Park. The 8-10 acre site could be developed into a Neighborhood Park-Playground.

The town should acquire as much of the land along Little Creek as possible while it is still undeveloped and reasonably priced (Federal assistance is available for the purchase of land through HUD Open Space Grants). Assistance in purchasing land and developing a Community Park is available through HUD and the Department of Interior's Bureau of Outdoor Recreation Grants.

In addition to the 8-10 acre Neighborhood Park-Playground near Norwich Mills, the town needs another such site developed on the eastern side of town across the railroad, somewhere between Mial Street and Central Street. Such a site might be developed in conjunction with proposed public housing development.

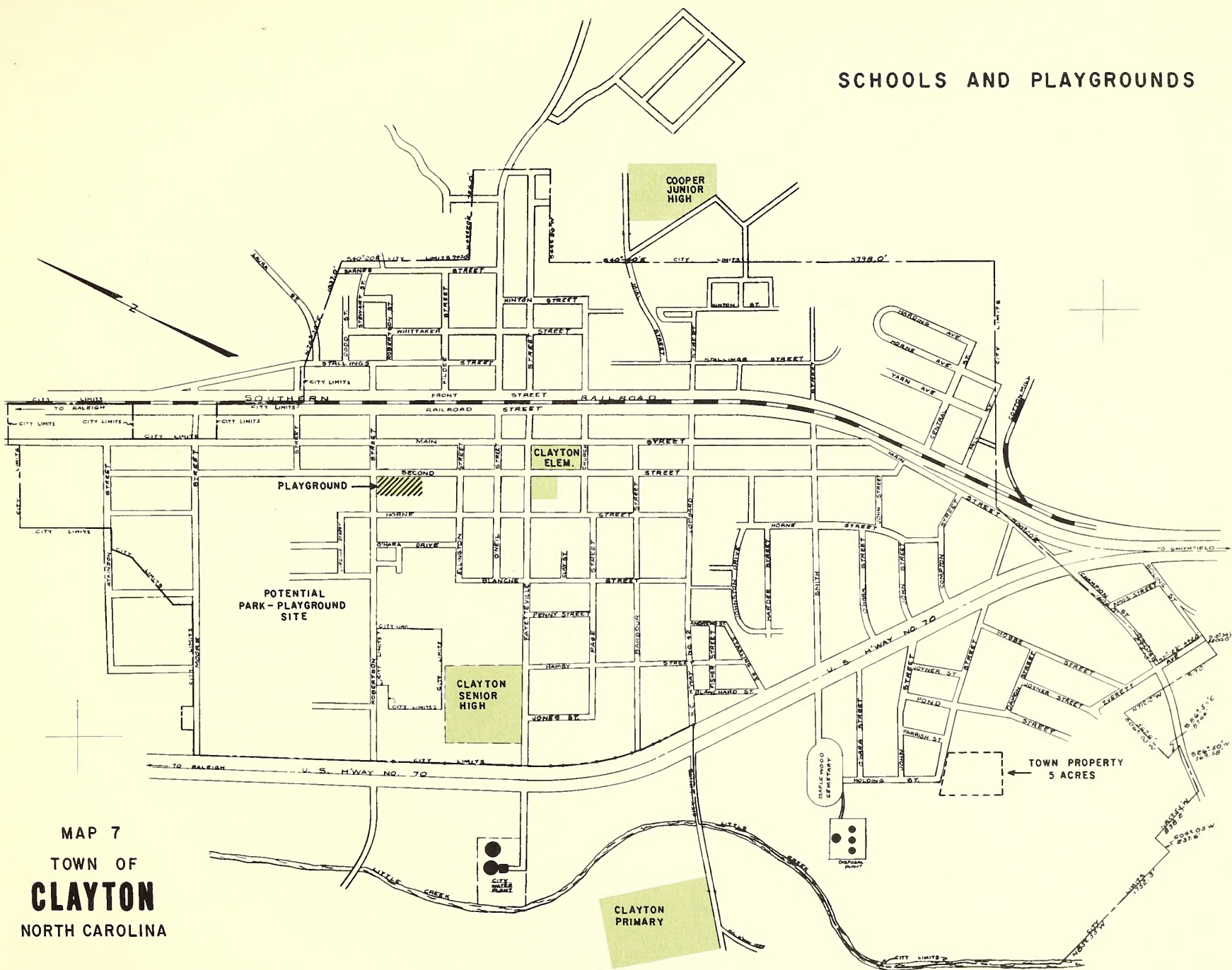
The five acre tract of land off Durham Street, in the southern part of town should be expanded.

The advisory services of the Recreation Division of the North Carolina Department of Local Affiars are available to the town in locating and evaluating the potential of sites and in making application for state and federal assistance in acquiring and developing sites.

The cooperative atmosphere between the town and the schools should be preserved and strengthened. The excellent summer programs should also be expanded. The town's recreation budget should be increased so that a full-time recreation director can be hired within five years, in addition to the expanded budget for the summer staff.

Under the auspices of PACE (Program for Assured College Education) the town could substantially increase the effectiveness of the summer recreation program. This system provides college students the opportunity to work in public agencies, with the agency paying salary. Determined efforts to include the children of the poor and black residents of the town are important to the community; these groups have least access to private recreational facilities and private transportation.

SCHOOLS AND PLAYGROUNDS



MAP 7
TOWN OF
CLAYTON
NORTH CAROLINA

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